ORDER NO. ARD-7311139

Service Manual

Panasonic
TAPE RECORDER
Panasonic

8-TRACK CARTRIDGE TAPE RECORDER WITH CASSETTE TAPE RECORDER, RECORDCHANGER, MATRIX 4-CHANNEL CIRCUITLY AND FM/AM TUNER

This is the Service Manual of Model RS-888S for European PX.

MODEL RS-888S

SPECIFICATIONS

AUDIO SECTION

Power Output:	4-16 W...PMPO
Frequency Response:	20~25,000 Hz
Inputs:	4-LINE IN: −15 dB (170 mV)/100 KΩ 1-MIX MIC: −68 dB (0.4 mV)/applicable mic impedance 200~600Ω
Outputs:	4-EXT SP: 8Ω 2-HEADPHONES: 8Ω 1-4CH REMOTE BALANCER

CASSETTE SECTION

Operation:	Cassette pushbutton control with Auto-Stop mechanism
Track System:	4-track, 2-channel stereo recording and playback
Tape Speed:	1-7/8 ips.
Frequency Response:	30~12,000 Hz
Recording System:	AC bias, AC erase
Inputs:	2-MIC: −74 dB (0.2 mV)/applicable mic impedance 200~600Ω
Program Time:	1 hour stereo recording with C-60 cassette tape
Fast Forward and Rewind Time:	Approx. 90 seconds with C-60 cassette tape

8-TRACK SECTION

Operation:	Cartridge slide-in with Pana-Ject mechanism
Track System:	8-track, 2-channel stereo record/playback and 4-channel playback.
Tape Speed:	3-3/4 ips.
Frequency Response:	30~15,000 Hz
Program Time:	1 hour with 300 feet tape
Inputs:	2-MIC: −74 dB (0.2 mV)/applicable mic impedance 200~600Ω
Fast Forward Time:	Approx. 360 seconds with 300 feet tape

TUNER SECTION

Frequency Range:	AM: 525~1,605 kHz FM: 87.5~108 MHz
Usable Sensitivity:	AM: 60μV/m/50 mW FM: 2μV/50 mW
Antennas:	AM: High sensitivity ferrite bar antenna FM: 300Ω
Output:	1-MPX OUT

SPEAKER SYSTEMS

Woofer:	2-6-1/4" PM dynamic speakers
Tweeter:	2-2-5/8" PM dynamic speakers
Dimensions:	12-1/4"(W) × 20-3/4"(H) × 6-1/4"(D)
Weight:	2-11 lbs.

TURNTABLE SECTION

Type:	Full-size automatic changer
Speeds:	2-speeds (33-1/3, 45)
Stylus:	Diamond
Cartridge:	MM type

GENERAL

Power Source:	AC: 90~109, 110~125, 200~219, 220~250 volts, 50/60 Hz
Power Consumption:	70 W
Dimensions:	21-5/8"(W) × 10"(H) × 13-3/4"(D)
Weight:	36-3/8 lbs.

These specifications are subject to change in order to accommodate improvements in design.

MATSUSHITA ELECTRIC
MATSUSHITA ELECTRIC TRADING CO., LTD.
P.O. Box 288 Central, Osaka, Japan
National

LOCATION OF PARTS

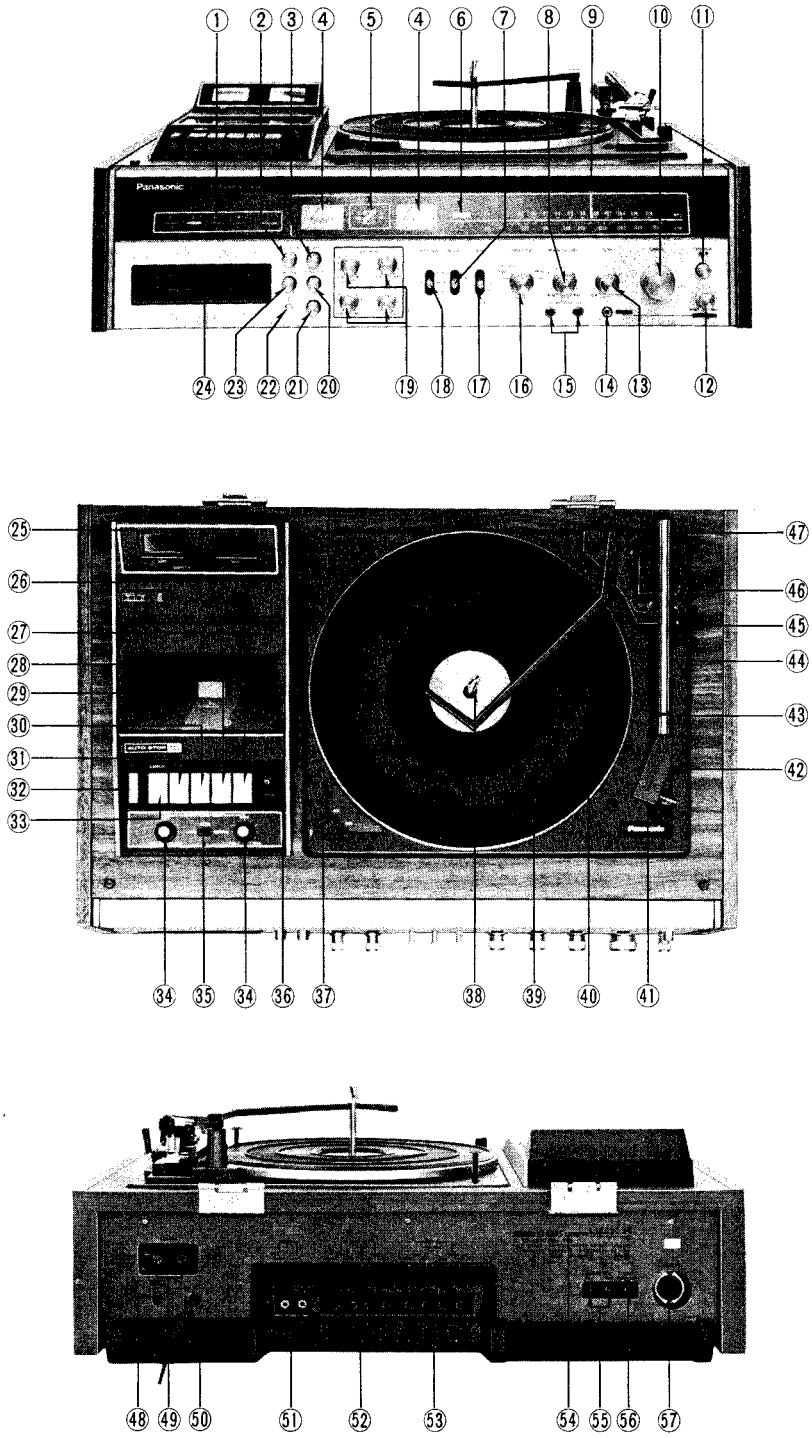


Fig. 1

① Program indicators
② Program selector
③ 8-track ejection button
④ 8-track level meters
⑤ Channel indicator
⑥ FM stereo indicator
⑦ Mode selector
⑧ Volume control
⑨ Dial scale
⑩ Tuning control
⑪ Power switch
⑫ Microphone mixing level control
⑬ Tone control
⑭ Microphone mixing jack
⑮ Headphones jacks
⑯ Source selector
⑰ Automatic frequency control switch
⑱ Monitor switch
⑲ Balance controls
⑳ Pana-ject button
㉑ 8-track fast forward button
㉒ 8-track record indication lamp
㉓ 8-track record button
㉔ Tape slot
㉕ Cassette level meters
㉖ Cassette tape counter and reset button
㉗ Stop button
㉘ Playback button
㉙ Cassette cover
㉚ Cassette fast forward button
㉛ Cassette rewind button
㉜ Cassette ejection button
㉝ Cassette record button
㉞ Cassette input level controls
㉟ Tape selector
㊱ Pause switch
㊲ Speed change control
㊳ Record spindle
㊴ Record support arm
㊵ Turntable
㊶ Pickup cartridge
㊷ Changer function lever
㊸ Pickup safety catch
㊹ Record size selection lever
㊺ Cue lever
㊻ Inside force cancelier
㊼ Pickup arm
㊽ Voltage selector
㊾ FM antenna terminals
㊿ Power cord
(51) Microphone input jacks
(52) Line input jacks
(53) External speaker output jacks
(54) Serial number
(55) Phono output jacks
(56) 4-channel multiplex output jack
(57) Remote control channel balancer

DISASSEMBLY INSTRUCTIONS

Procedure	To remove—	Remove—	Shown in Figure—
1	Back Board	(A)	2
2	Body Case	(B), (C)	3, 4
3	Record Changer	(D), (G)	5, 6
3	Cassette Panel	(E), (F), (H), (I)	5, 6, 7
3	Front Panel	(J), (K), (L), (M)	8, 9
4	Amplifier	(N), (P)	10, 11
4	8-Track Mechanism	(O)	11

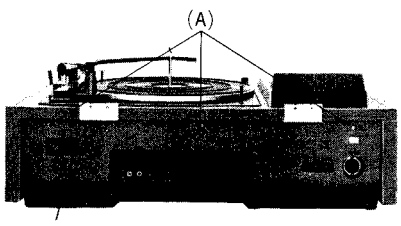


Fig. 2

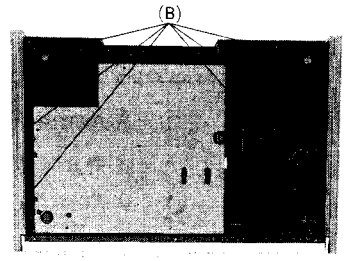


Fig. 3

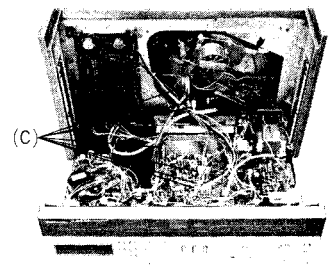


Fig. 4

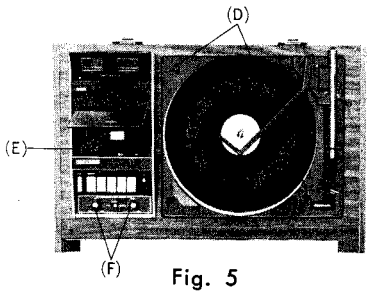


Fig. 5

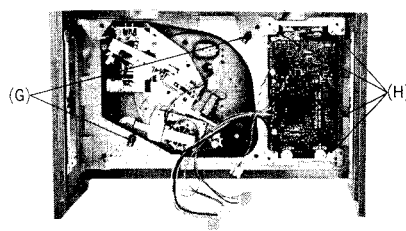


Fig. 6

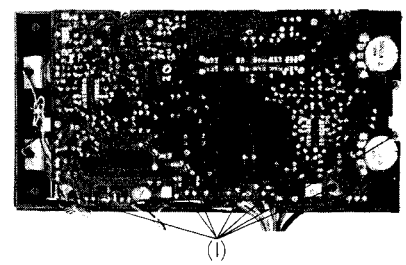


Fig. 7

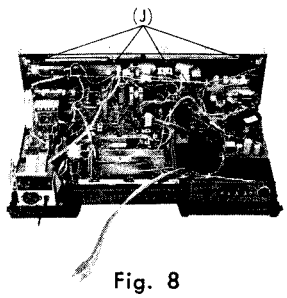


Fig. 8

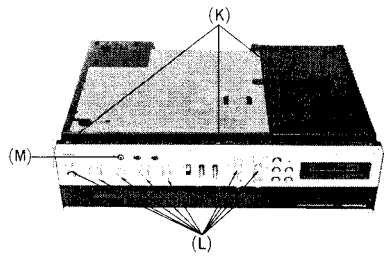


Fig. 9

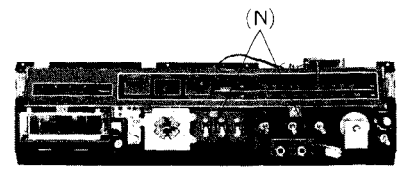


Fig. 10

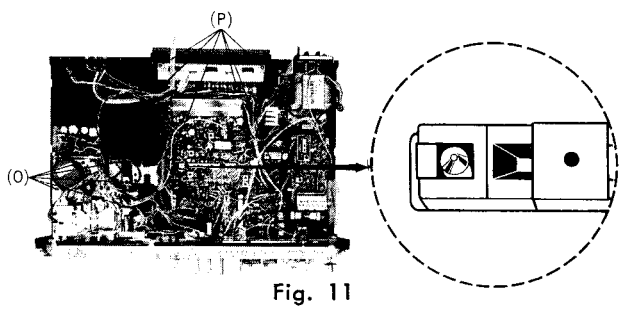


Fig. 11

NOTE:
When mounting the amplifier make sure that the actuator of the record/playback select lever is inserted in proper position.

MECHANICAL ADJUSTMENTS

8-TRAKE MECANISM

1. PROGRAM SELECTION

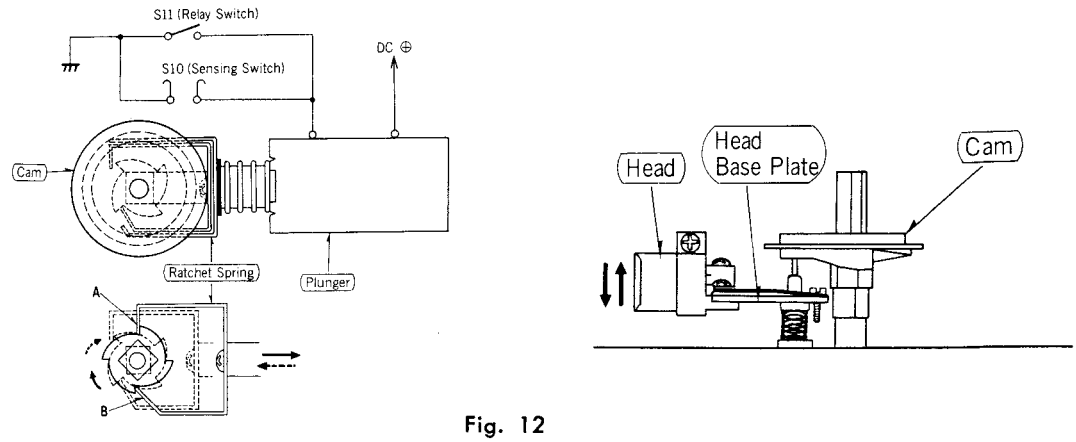


Fig. 12

Manual Selection

1. When the push switch is pressed, the plunger operates.
2. Plunger pulls the ratchet spring to momentary then it returns to the left.
3. Ratchet spring turns the cam.
4. As the cam rotates, the head moves up and down and program is selected.

Automatic Selection

If the sensing foil attached to the cartridge tape, the plunger functions when the sensing switch is closed by the sensing foil, thereby selecting program can be made automatically.

2. PRESSURE ROLLER ADJUSTMENT

Instruments required: Standard cartridge for measuring of pressure roller, spring gauge.

Measuring method: Insert the standard cartridge in the tape slot and take the mesurement by pulling it with the spring gauge. (Refer to fig. 13)

Adjusting method: Change the hanging position on spring hanger.

Standard value: 1200±200 gr.

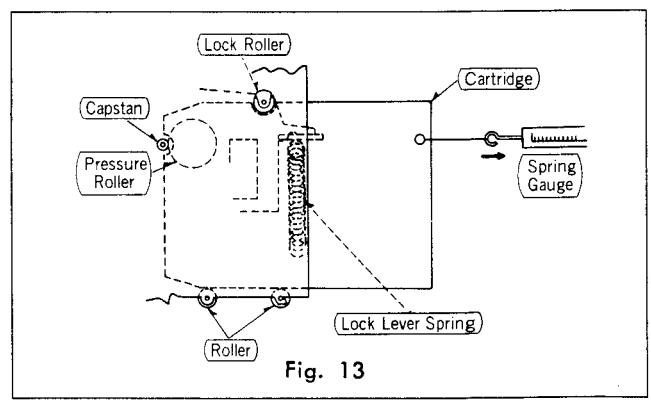


Fig. 13

3. HEAD PLATE ATTRACTION

Instrument required: Spring gauge.

Measuring figure: Refer to fig. 14.

Measuring method: Place the set into the mode of program 1, and the take the measurement by pushing it downward with the spring gauge.

Standard value; 110±20 gr.

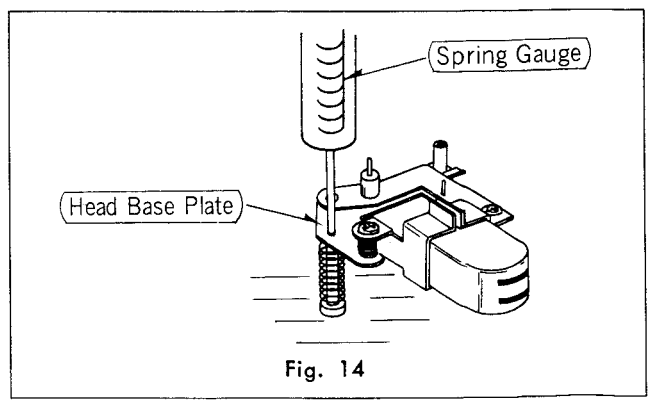


Fig. 14

CASSETTE MECHANISM

Instruments required:

Spring gauge (having a range of 0~1 kgr), cassette torque meter (RP-8063P), wow & tape speed test tape (C-WAP), Digital frequency counter, Wow meter.

	ITEM	MODE	SPEC.	MEASUREMENT METHOD	ADJUSTMENT METHOD	REMARKS
1	Pressure roller adjustment.	Playback	350±50	Hook the spring scale to pressure roller lever and pull it in the direction of the arrow as shown in fig. 15.	Adjust by bending the (a) part of the pressure roller spring.	Measure the value at the moment when the pressure roller moves away the capstan.
2	Measurement & adjustment of takeup tension.	Playback	55±15 gr-cm	Mount the cassette torque meter in the same way as the cassette tape, and set in playback mode. The takeup tension is shown as in fig. 16.	Turning the plate spring, adjust frictional force. See fig. 17.	——
3	Tape speed deviation.	Playback	±3% or less	Playback 3 kHz test tape (C-WAP) and read the frequency with the digital frequency counter.	——	——
4	Wow & flutter. (RMS)	Playback	0.4% or less	Playback 3 kHz test tape (C-WAP) and read with the wow meter.	——	——

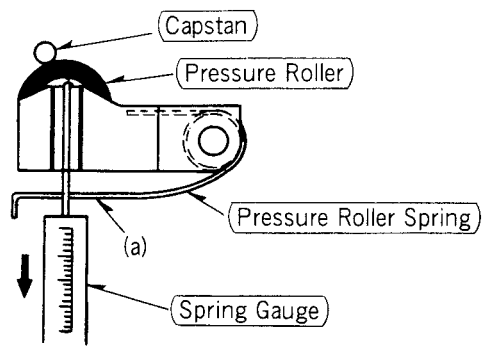


Fig. 15

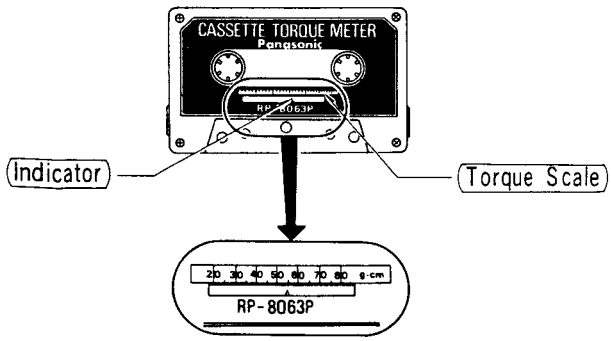


Fig. 16

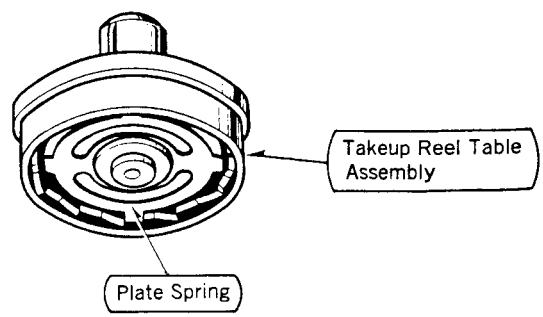


Fig. 17

AMPLIFIER ADJUSTMENTS

GENERAL

Adoption of Printed Resistor

This unit uses printed resistors execllent in electrical stability.
In the schematic diagram, these printed resistors are shown by thick-line symbols, thereby being distinguished from regular resistors. Care should be taken that the printed resistors are not included in the parts list.

Markings for them on the PCB view are discriminated as shown in fig. 18.
Printed resistors are almost free from the defects. Should any of the printed resistors get damaged, replace the damaged printed resistor with a regular resistor.

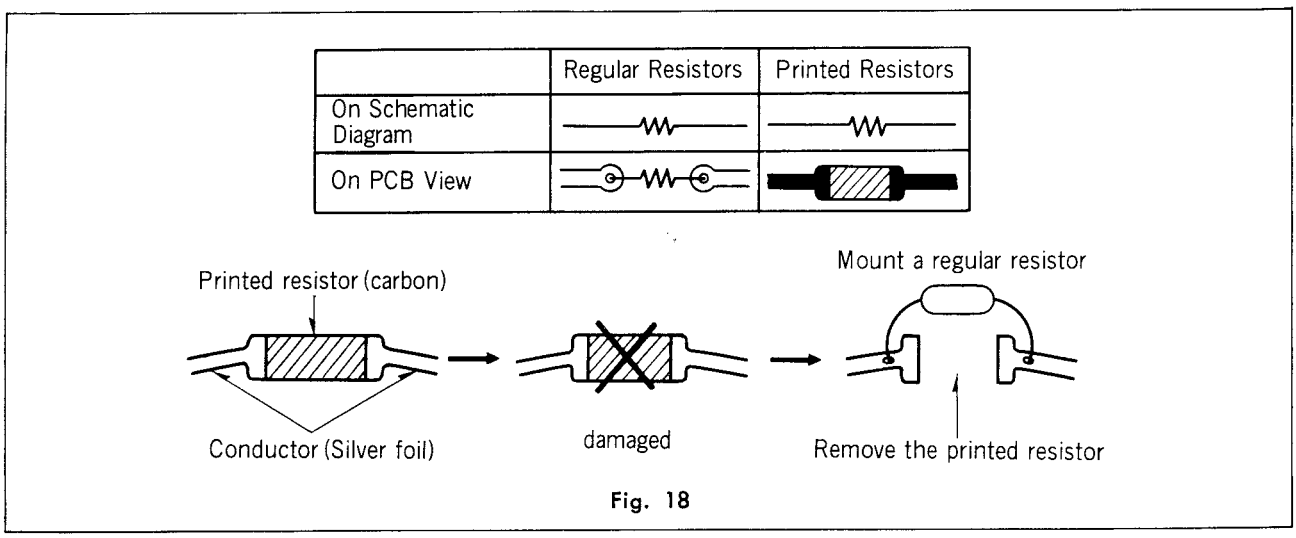


Fig. 18

HEAD HEIGHT ADJUSTMENT

Instruments required: Height & Azimuth Test Tape (VTT-801), VTVM.

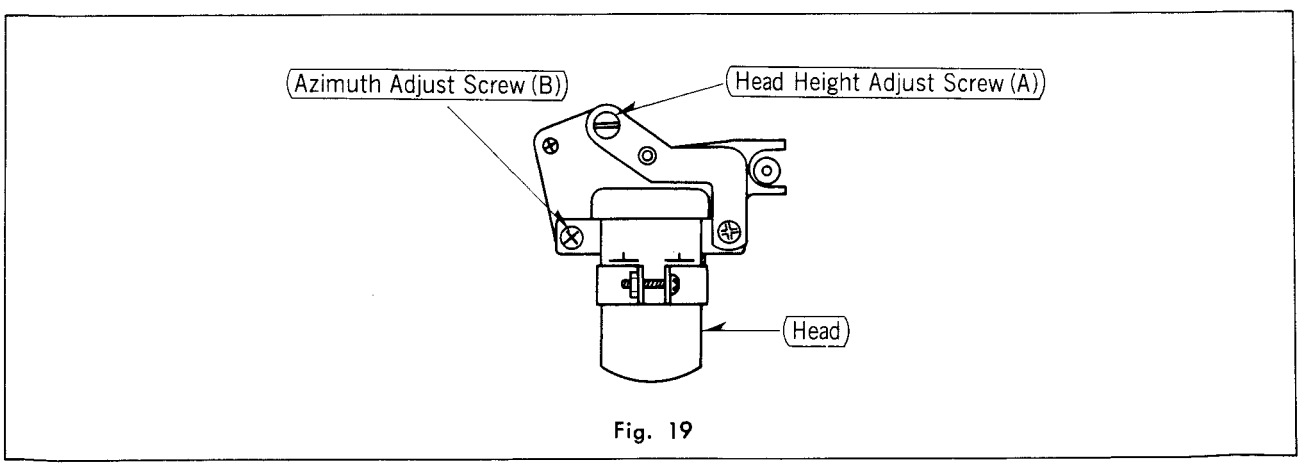


Fig. 19

Test tape (VTT-801) is recorded with a 1 kHz tone above and below track 2 and with 8 kHz tone on track 6 (Fig. 20).

1. Set the tape recorder to program 2.
2. Connect a VTVM to the output of left channel.
3. Playback the test tape (VTT-801) and adjust the Head height adjust screw (A) shown in fig. 19 for minimum output.

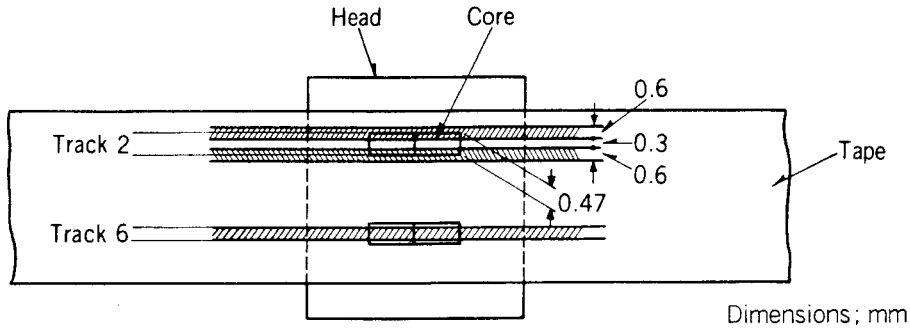


Fig. 20

AZIMUTH ADJUSTMENT

Instruments required:

Test Tape (VTT-801), VTVM.

1. Set the tape recorder to program 2.
2. Connect a VTVM to the output of right channel.
3. Playback the test tape (VTT-801) and adjust the Azimuth adjust screw (B) shown in fig. 19 so that the reading of the VTVM becomes maximum. See fig. 21.

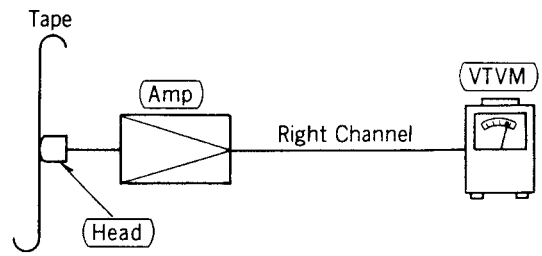


Fig. 21

CROSSTALK ADJUSTMEMT

Test tape (VTT-804) has 400 Hz on tracks 1, 3, 5 and 7, and no signal on tracks 2, 4, 6, and 8.

1. Play each tracks and measure the power ratio, using the VTVM, between each odd and even numbered track.
   It should be at least 45 dB.
2. If the ratio is out of tolerance, repeat the azimuth and height adjustments.

CASSETTE HEAD AZIMUTH ADJUSTMENT

Using 6.3 kHz test tape or recorded music tape, play the tape and adjust the head azimuth adjust screw (A) shown in fig. 22 for balanced maximum output.

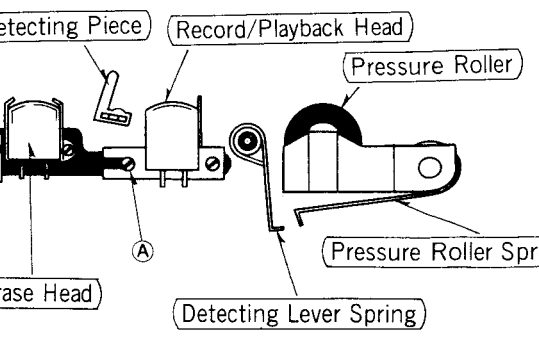


Fig. 22

ADJUST PARTS LOCATION

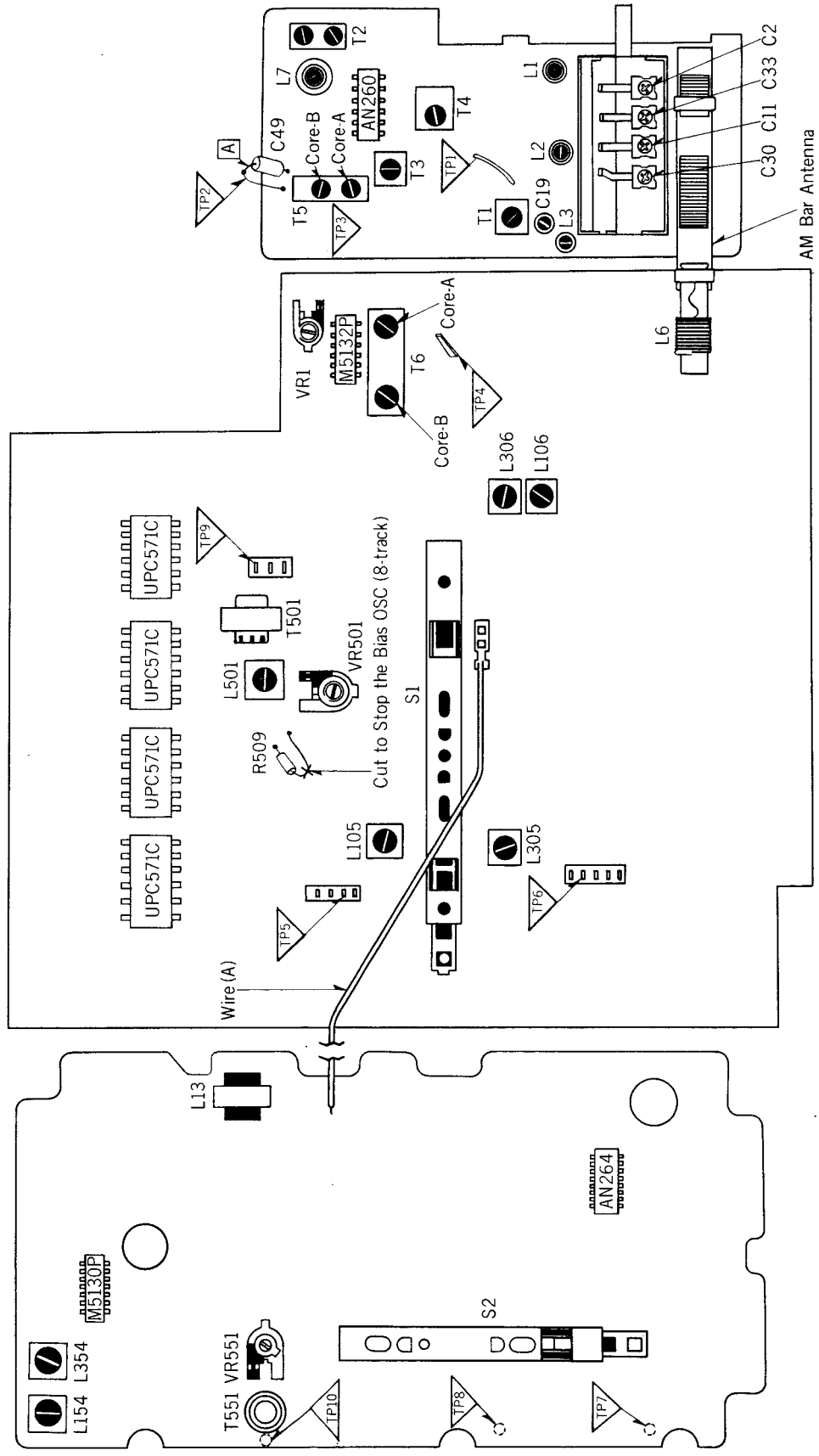


Fig. 23

AMPLIFIER ADJUSTMENT

8-TRACK SECTION

Measurement condition:

Voltage.....90~250 V
Source selector ...8-Trake
Mode selector.....Stereo
Volume control.....Maximum
Balance control.....Center
Tone control.....Center

Instruments required:

VTVM, AF OSC, Oscilloscope, ATT, Resistors (8Ω, 600Ω)

	ITEM	SIGNAL SOURCE CONNECTION	OUTPUT CONNECTION	MODE	ADJUSTMENT	SPEC.	REMARKS
1	Test of playback amplifier gain.	1 kHz, −90±3 dB as shown in fig. 24.	VTVM to EXT SP jack.	Playback	——	1 V	——
2	Test of oscillation frequency.	——	Oscilloscope with AF OSC to TP9 as shown in fig 25.	Record	——	35± 5 kHz	Adjust the AF OSC to obtain a circular and stationary Lissajous pattern on oscilloscope. The oscillation frequency is indicated by the scale of the AF OSC.
3	Adjustment of bias trap coil.	——	VTVM to TP5 (CH1), TP6 (CH2). See figs. 26 and 23.	Record	L105 (for CH1) L305 (for CH2) See fig. 23.	minimum	Set volume control to minimum.
4	Adjustment of erase current.	——	VTVM to TP9. See figs. 27 and 23.	Record	VR501 See fig. 23.	1.7 V	Set volume control to minimum.
5	Test of recording level.	1 kHz, MIC: −74±3 dB LINE IN: −28±3 dB	VTVM to TP5 (CH1), TP6 (CH2). See figs. 26 and 23.	Record	——	7.7 mV	Stop the bias oscillation by cutting lead of R509 shown in fig. 23.

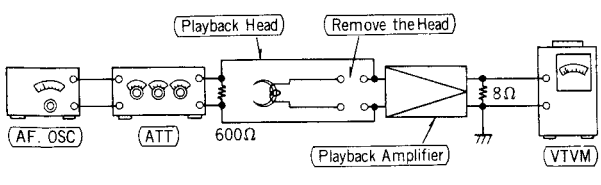


Fig. 24

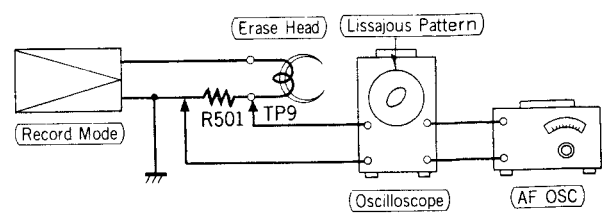


Fig. 25

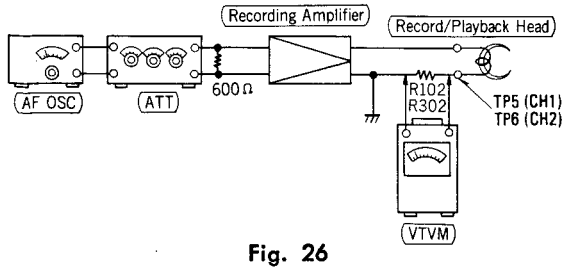


Fig. 26

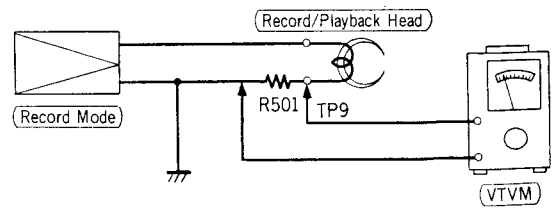


Fig. 27

CASSETTE SECTION

Measurement condition:

Voltage.....90~250 V
Source selector ...Cassette
Mode selector.....Stereo
Volume control .....Maximum
Balance control.....Center
Tone control .....Center

Instruments required:

VTVM, AF OSC, Oscilloscope, ATT, Resistor (8Ω, 600Ω)

ITEM	SIGNAL SOURCE CONNECTION	OUTPUT CONNECTION	MODE	ADJUSTMENT	SPEC.	REMARKS
Test of playback amplifier gain.	1 kHz, −91±3 dB as shown in fig. 28.	VTVM to EXT SP jack.	Playback	——	1 V	——
Test of oscillation Frequency.	——	Oscilloscope with AF OSC to TP10 as shown in figs. 29 and 23.	Record	——	32±5 kHz	Adjust the AF OSC to obtain a circular and stationary lissajous pattern on oscillaoscope. The oscillation frequency is indicated by the scale of the AF OSC.
Adjustment of record bias currernt.	——	VTVM to TP7 (CH1), TP8 (CH2). See figs. 30 and 23.	Record	L154(for CH1) L354(for CH2) See fig. 23.	45 mV	Set volume control to minimum.
Adjustment of erase current.	——	VTVM to TP10, See fig. 31.	Record	VR551 See fig. 23.	5 V	Set volume control to minimum.
Test of recording level.	1 kHz, −73±3 dB to MIC input jack.	VTVM to TP7 (CH1), TP8 (CH2). See figs. 30 and 23.	Record	——	4.3 mV	Stop the bias oscillation by unsoldering a lead wire (A) shown in printed circuit board (fig. 23)

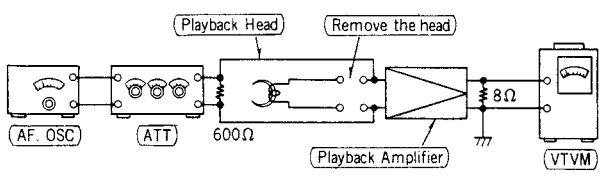


Fig. 28

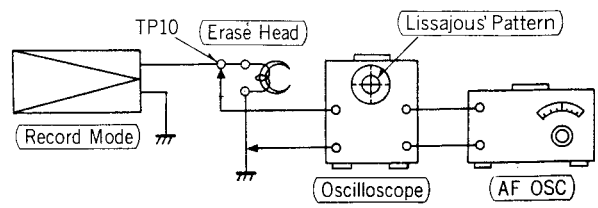


Fig. 29

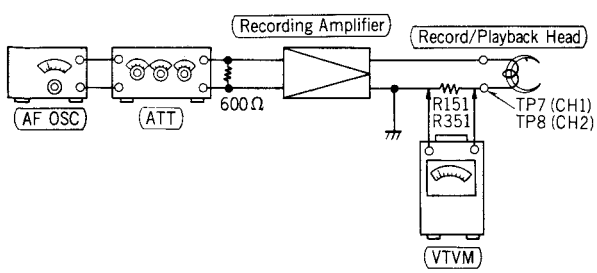


Fig. 30

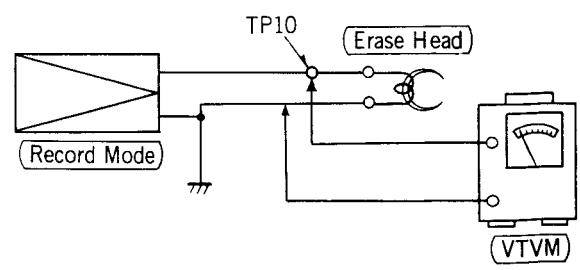


Fig. 31

ALIGNMENT INSTRUCTIONS FOR RADIO

PROCEDURE FOR DIAL THREADING

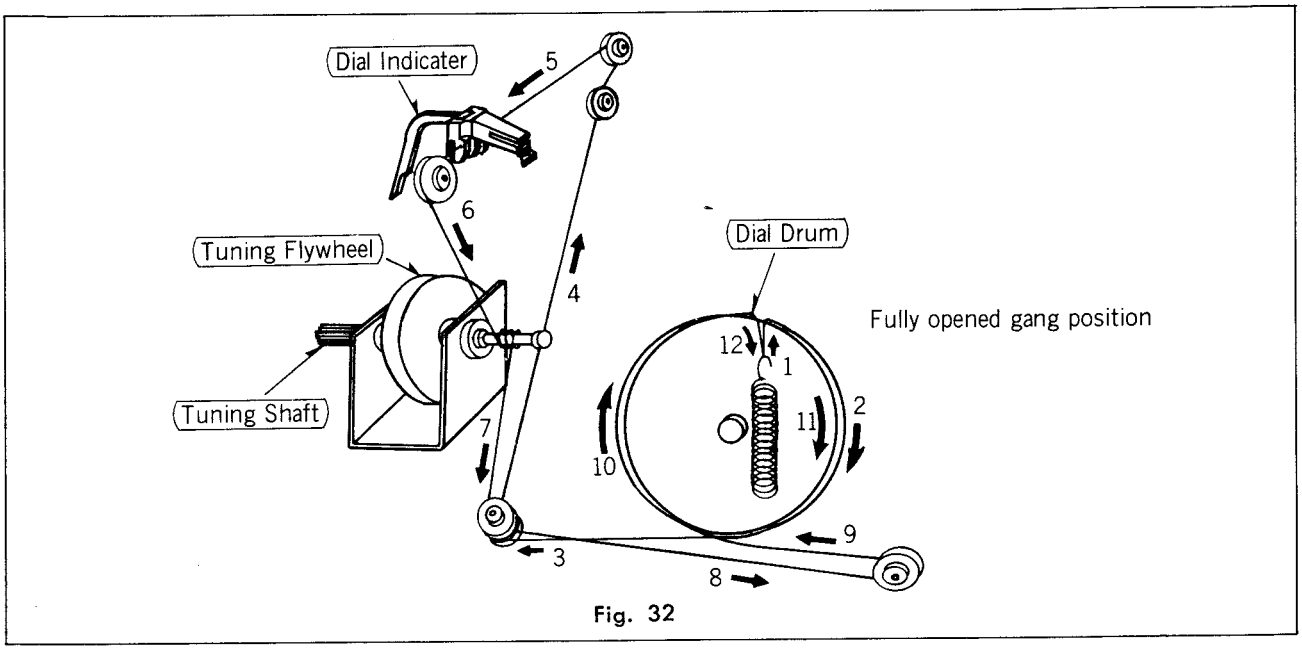


Fig. 32

AM, FM IF AND RF ALIGNMENT

AM IF AND RF ALIGNMENT

Output of signal generator should be no higher than necessary to obtain an output reading.

Set source selector to AM.
Set volume control to maximum.
Set tone control to center.
Set balance control to center.
Maintain line voltage at 90~250 volts.
Set AFC switch to OFF.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUSTMENT	REMARKS
1	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz (400 Hz Mod.)	Point of non-interference. (on/about 660 kHz)	Output meter across EXT SP jack (L).	T3 (2nd IFT) T2 (1st IFT) (Refer to fig. 23)	Adjust for maximum output.
2	Fashion loop of several turns of wire and radiate signal into loop of receiver.	550 kHz (400 Hz Mod.)	550 KHz	Output meter across EXT SP jack (L).	L7 (OSC coil) L6 (ANT coil) (Refer to fig. 23)	Adjust for maximum output by sliding coil (L6) along ferrite core.
3	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1.500 kHz (400 Hz Mod.)	1,500 KHz	Output meter across EXT SP jack (L).	C33 (OSC trimmer) C30 (ANT trimmer) (Refer to fig. 23)	Adjust for maximum output. Repeat steps (2) and (3).

Note: 1. Cement antenna bobbin with wax after completing alignment.
2. Make certain that speaker system or 8Ω dummy load is connected to the EXT SP jack when aligning.

FM IF AND DETECTOR ALIGNMENT WITH OSCILLOSCOPE

Adoption of Ceramic Filter

The FM intermediate-frequency amplifier circuit uses ceramic filters.
Utilizing piezo-electric effect of ceramics, the ceramic filter is small, light weight and shows stabilized ideal filter characteristics.
The high-selectivity concentration type filters, SFL10.7 MBD, used in this set are combinations of the ceramic filter and input coil.

FEATURES:
High selectivity (equivalent to that of 3 conventional mono-tune coils) shown ideal amplitude and phase characteristics and reduce distortion that occurs inside the IF amplifier.
The combination with input coil permits good matching and, at the same time, reduces sprious response.
The set, using 2 ceramic filters SFL 10.7 MBD, specially excels in effective selectivity characteristic and also in capability of removing radio interference of adjacent channel.
Since the ceramic filter is a non-adjustment type (fixed frequency), it cannot be adjusted like the conventional tuning coil.

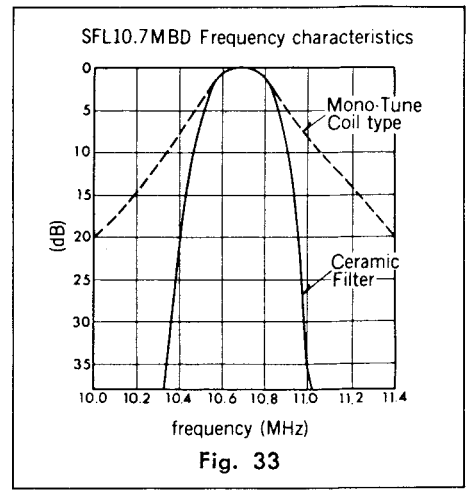


Fig. 33

For this set, adjust the FM. IF circuit in the following order.
1. Ceramic filters SFL 10.7 MBD, are divided into 5 ranks by difference in center frequency as shown below.

PART NO.	RANK	CENTER FREQUENCY	MARKING
SFL 10.7 MB	(A)	10.70 MHz	(Red)
	(B)	10.67 MHz	(Blue)
	(C)	10.73 MHz	(Orange)
	(D)	10.64 MHz	(Black)
	(E)	10.76 MHz	(White)

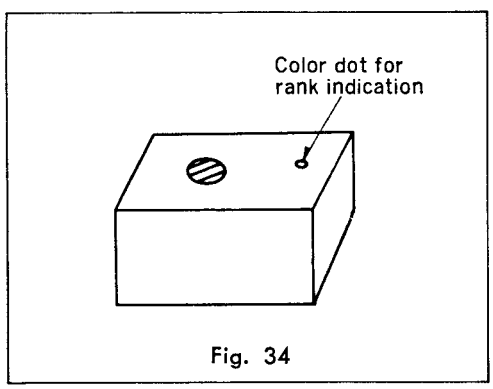
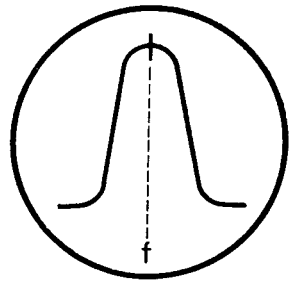


Fig. 34

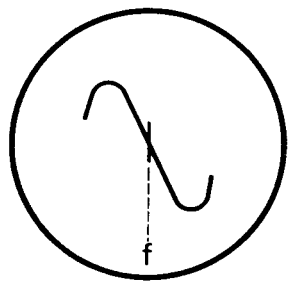
For the rank classification, a color dot is put on each ceramic filter.

2. T1, and T4 to be used should be of the same center frequency (same color indication). It is, therefore, necessary to choose a ceramic filter of the same center frequency when replacing one of the above parts.



f: center frequency of ceramic filter

Fig. 35



f: center frequency of ceramic filter

Fig. 36

EQUIPMENT REQUIRED

Signal generator that provides 10.64, 10.67, 10.7, 10.73, or 10.76 MHz marker according to the center frequency of ceramic filter used in the set.

Sweep generator that provides above center frequencies and 400 kHz sweep width.

OSCILLOSCOPE

Set sweep selector of oscilloscope to "EXTERNAL SWEEP".

Apply 60 Hz sweep signal from sweep generator to horizontal input terminals of oscilloscope.

Set source selector to FM.
Set volume control to minimum.
Set tone control to treble.
Set balance control to center.
Maintain line voltage at 90~250 volts.

Note: Before alignment unsolder lead between test point TP2 and [A], resolder it after alignment.

	SWEEP GENERATOR COUPLING	SIGNAL GENERATOR COUPLING	RADIO DIAL SETTING	INDICATOR	ADJUSTMENT	REMARKS
1	High side thru. 0.001μF to point TP1. (fig. 23) Common to chassis.	High side thru. 0.001μF to point TP1. (Rerer to fig. 23) Common to chassis.	Point of non-interference. (on/about 20 MHz)	Connect vert. amp. of scope to TP2. (Refer to fig. 23) Common to chassis.	T5 (core A) T4 (FM 2nd IFT) T1 (FM 1st IFT) (Refer to fige. 23)	Adjust for maximum amplitude and proper linearity between ±100 KHz markers. (Refer to fig. 35)
2	High side thru. 0.001μF to.point TP1. (fig. 23) Common to chassis.	High side thru. 0.001μF to point TP1. (Refer to fig. 23) Common to chassis.	Point of non-interference. (on/about 90 MHz)	Connect vert. amp. of scope to TP3. (Refer to fig. 23) Common to chassis.	T5 (core B) (Refer to fig. 23)	To obtain proper linearity shown in fig. 36.

FM RF ALIGNMENT

Output of signal genarator should be on higher than necessary to obtain an output reading.
Set source selector to FM.
Set volume control to maximum.
Set tone control to treble.
Set balance control to center.
Maintain line voltage at 90~250 volts.

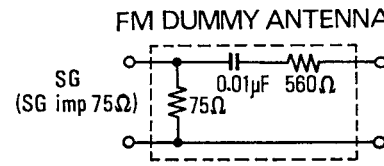


Fig. 37

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUSTMENT	REMARKS
3	Connect to EXT FM antenna terminal through FM dummy antenna. Common to chassis. (Refer to fig. 37)	90 MHz (400 Hz to Mod.)	90 MHz	Output meter across EXT SP jack (L)	L3 (FM OSC coil) L1 (FM ANT coil) L2 (FM Collector coil) Refer fig. 23.	Adjust for maximum output.
4	Connect to EXT FM antenna terminal through FM dummy antenna. Common to chassis. (Refer to fig. 37)	106 MHz (400 Hz to Mod.)	106 MHz	Outpnt meter across EXT SP jack (L)	C19 (FM OSC trimmer) C2 (FM ANT trimmer) C11 (FM Collector trimmer) Refer fig. 23.	Adjust for maximum output. Repeat steps (3) and (4).

Nate: 1. Adjust for center response, whenever three output response peaks are noted.
2. Remove line cord antenna from EXT antenna terminal when aligning.

MULTIPLEX COIL AND SEPARATION ALIGNMENT

EQUIPMENTS REQUIRED

Stereo modulator.....Connect stereo modulator output to EXT. Mod. terminal signal generator.

Signal generator .....Modulation rate by 19 kHz pilot signal.....8~10%
Modulation rate by left signal.....27%
Output level.....40 dB
Frequency.....Approximately 98 MHz

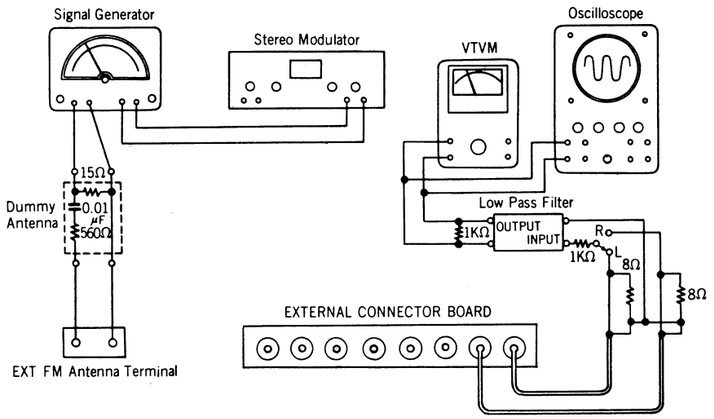
Oscilloscope
Dummy antenna
VTVM
Low pass filter

PROCEDURE

Tuner .....Source Selector to FM, dial setting to approximately 98 MHz, tone control to TREBLE, balance control to center.

ITEM	SIGNAL SOURCE CONNECTION	EQUIPMENT CONNECTION	ADJUSTMENT	REMARKS
Adjustment of pilot signal.	98 MHz, 30 dB (Refer to fig. 38)	TP3 (Refer ot fig. 23)	T6 (both of cores) (Refer to fig. 23)	* Set stereo (L+6) modulation to zero. * Measure pilot signal only, and adjust for maximum.
Adjustment of separtipn.	98 MHz, 60 dB modulation by L signal. (Refer to fig. 38)	Connect VTVM and 8Ω resistor to EXT SP jack. (Refer to fig. 38)	Core B of T6 and VR1. (Refer to fig. 23)	* Adjust volume control so that CH1 output becomes 0.63 V. * Slightly adjust core A of T6 so that this output becomes maximum. * Then change the modulation by R signal only. and adjust semi-fixed volume VR1 so that CH1 output becomes minimum. * Likewise modulate by L signal only, and adjust VR1 so that CH2 output becomes minimum.
Measurement of stereo eye lighting level.	98 MHz	——	——	* Adjust output of signal generator, and make sure that stereo eye lights at 13~30 dB

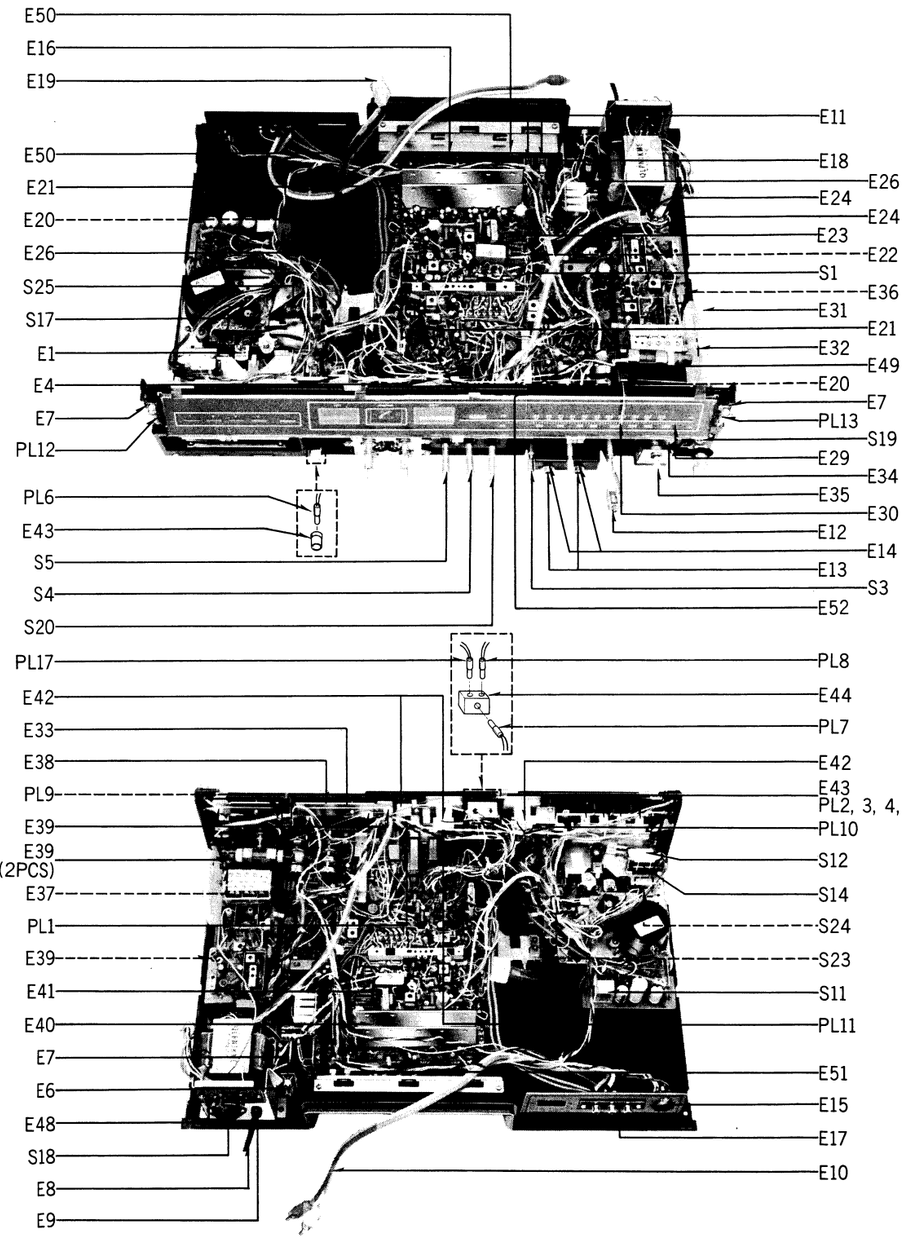
Nate: When aligning, remove line cord antenna attached to external FM antenna terminal.

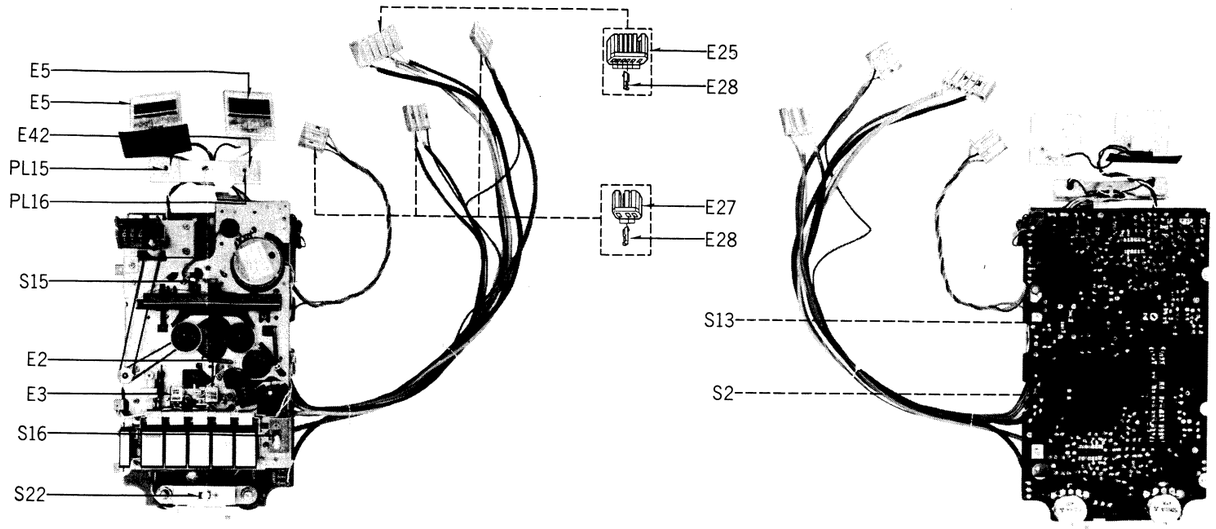


Recommended Equipment Connection for Multiplex Coil Alignment

Fig. 38

ELECTRICAL PARTS LOCATION





■ SERVICE AID

How to install and remove the connector housing and clamp pin.

1. Insert the lead wire into the pin clamp. See fig. 39.
2. Bend the tabs of pin clamp using radio plier to attach the lead wire. See fig. 39.
3. Insert the pin clamp, which the lead wire has been attached to, into the connector housing. See fig. 40.
4. In order to remove the pin clamp from the connector housing, insert a eyeleter into the housing holes and touch it to pin clamp stopper. See fig. 41.
5. Bend the stopper inward toward pin clamp and pull out the pin clamp. See fig. 41.

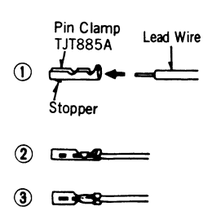


Fig. 39

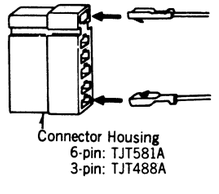


Fig. 40

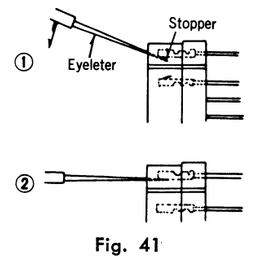
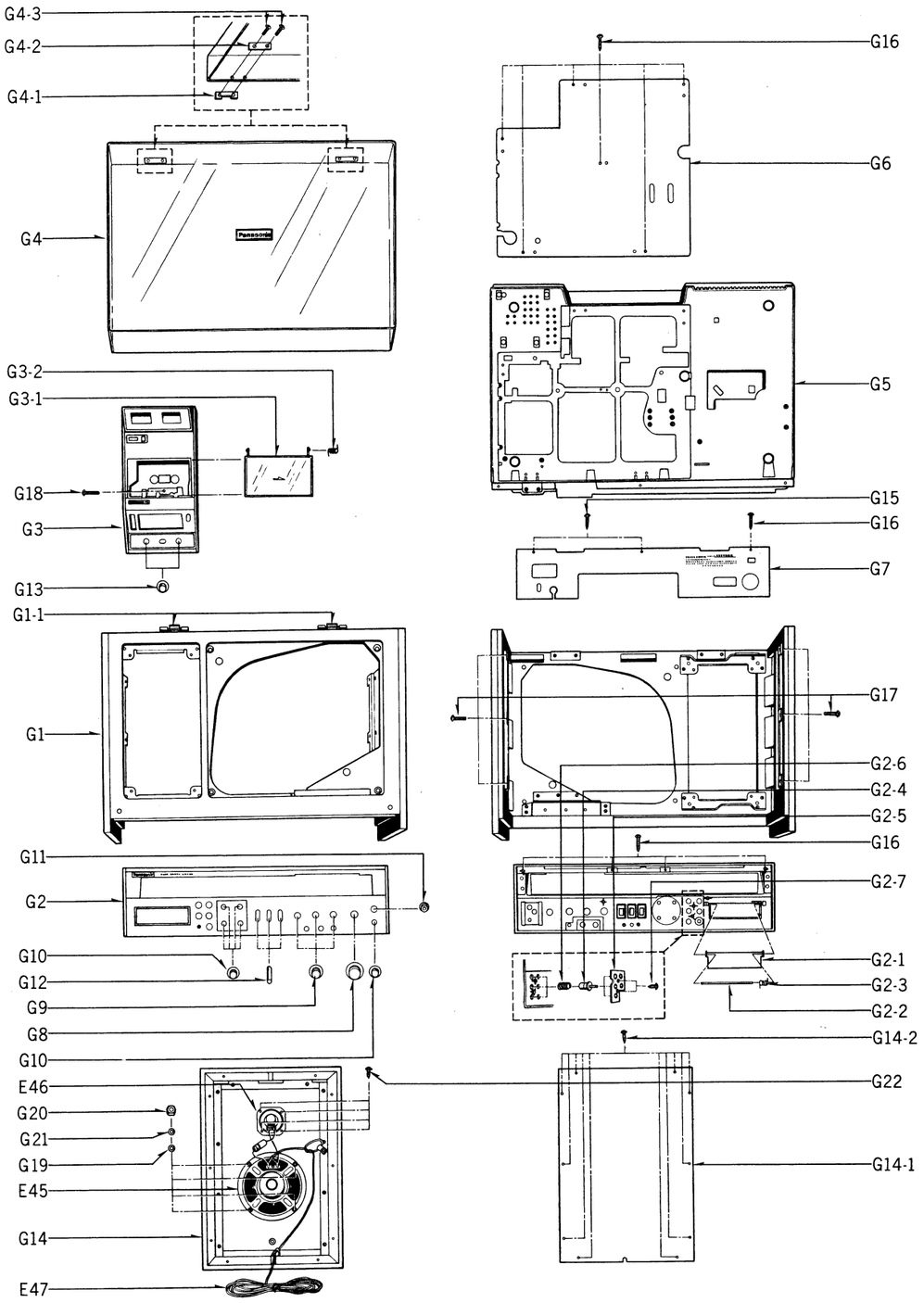


Fig. 41

CABINET PARTS

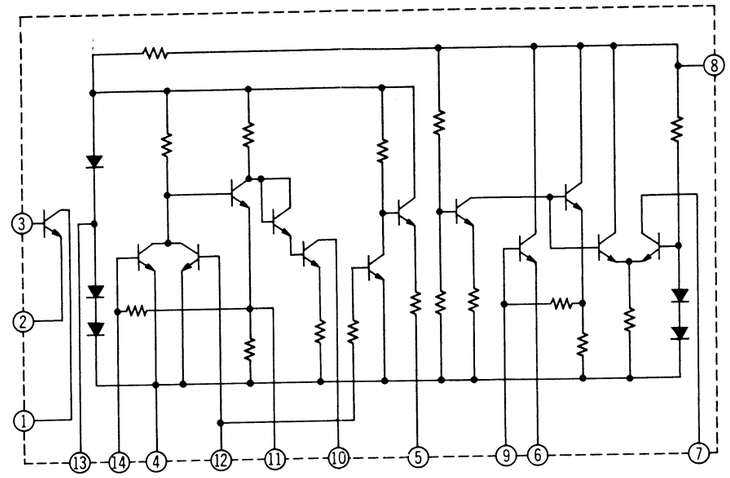


INTEGRATED CIRCUIT

IC 1

AM CONV FM/AM IF AMP

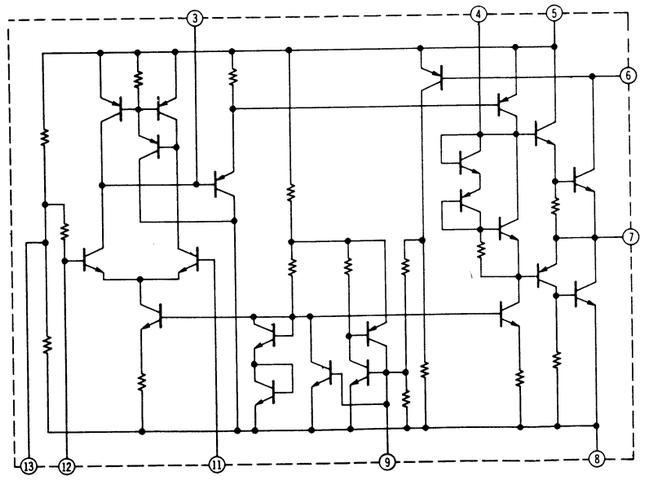
AN260



IC 101, 201, 301, 401

POWER AMP

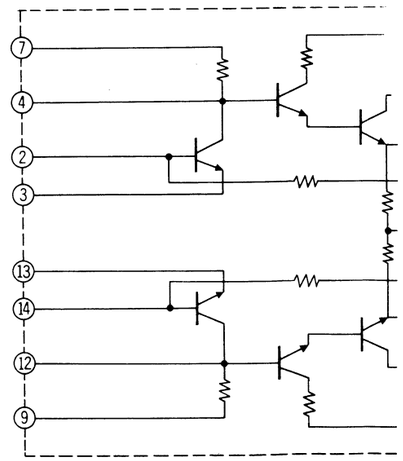
UPC571C



IC 1

PLAY A

AN26

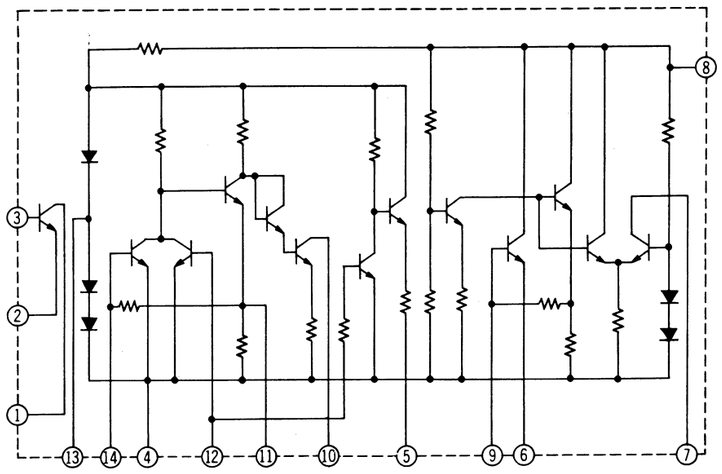


INTEGRATED CIRCUIT

IC 1

AM CONV FM/AM IF AMP

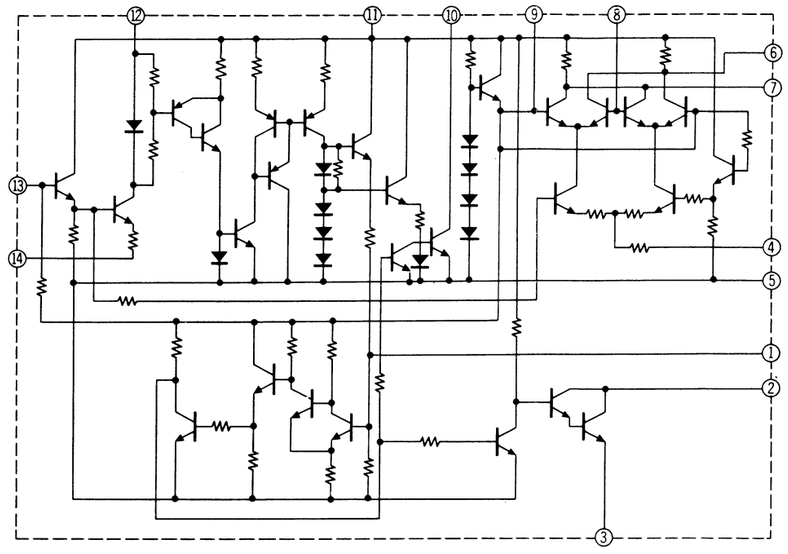
AN260



IC 2

FM MPX

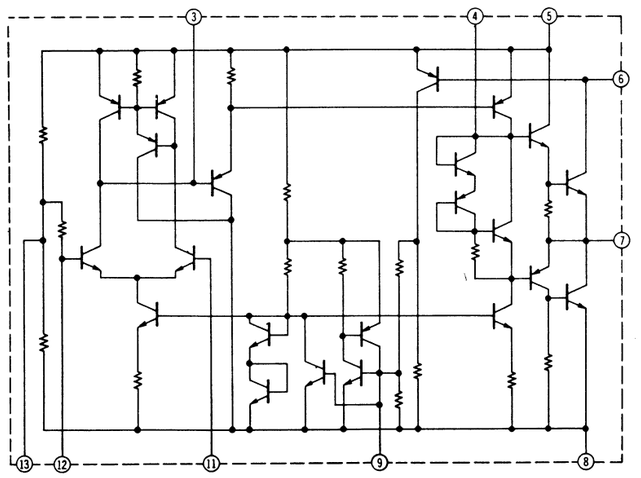
M5132P



IC 101, 201, 301, 401

POWER AMP

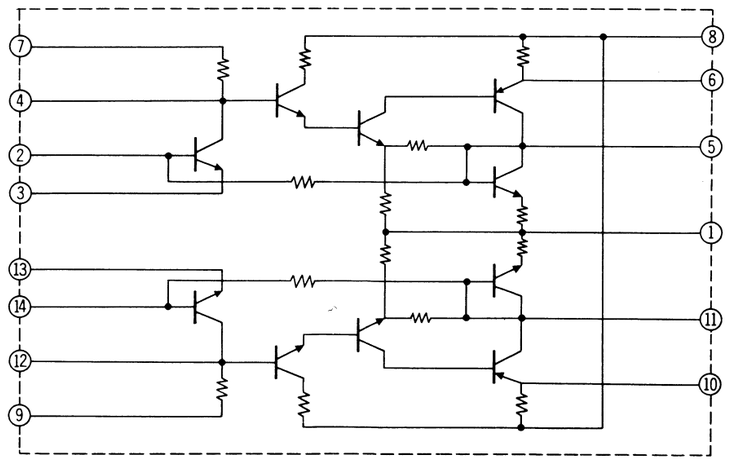
UPC571C



IC 151

PLAY AMP

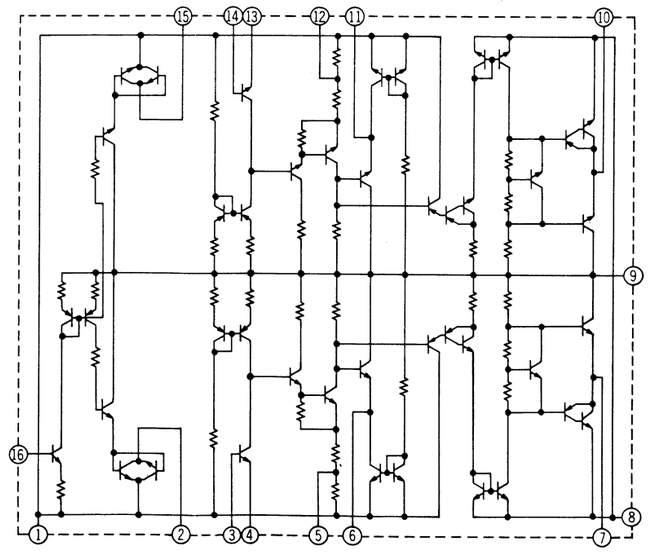
AN264



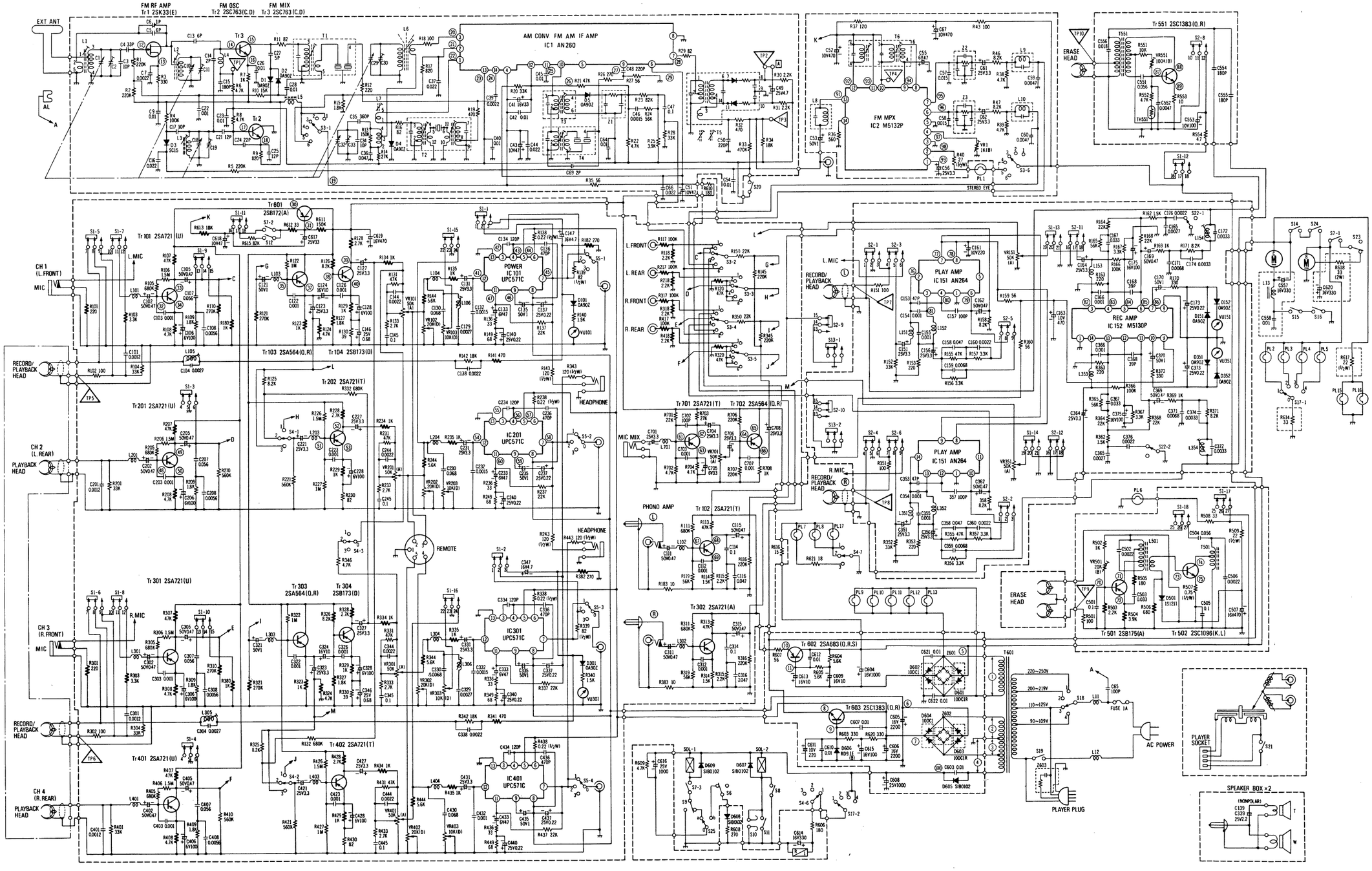
IC 152

REC AMP AGC

M5130P

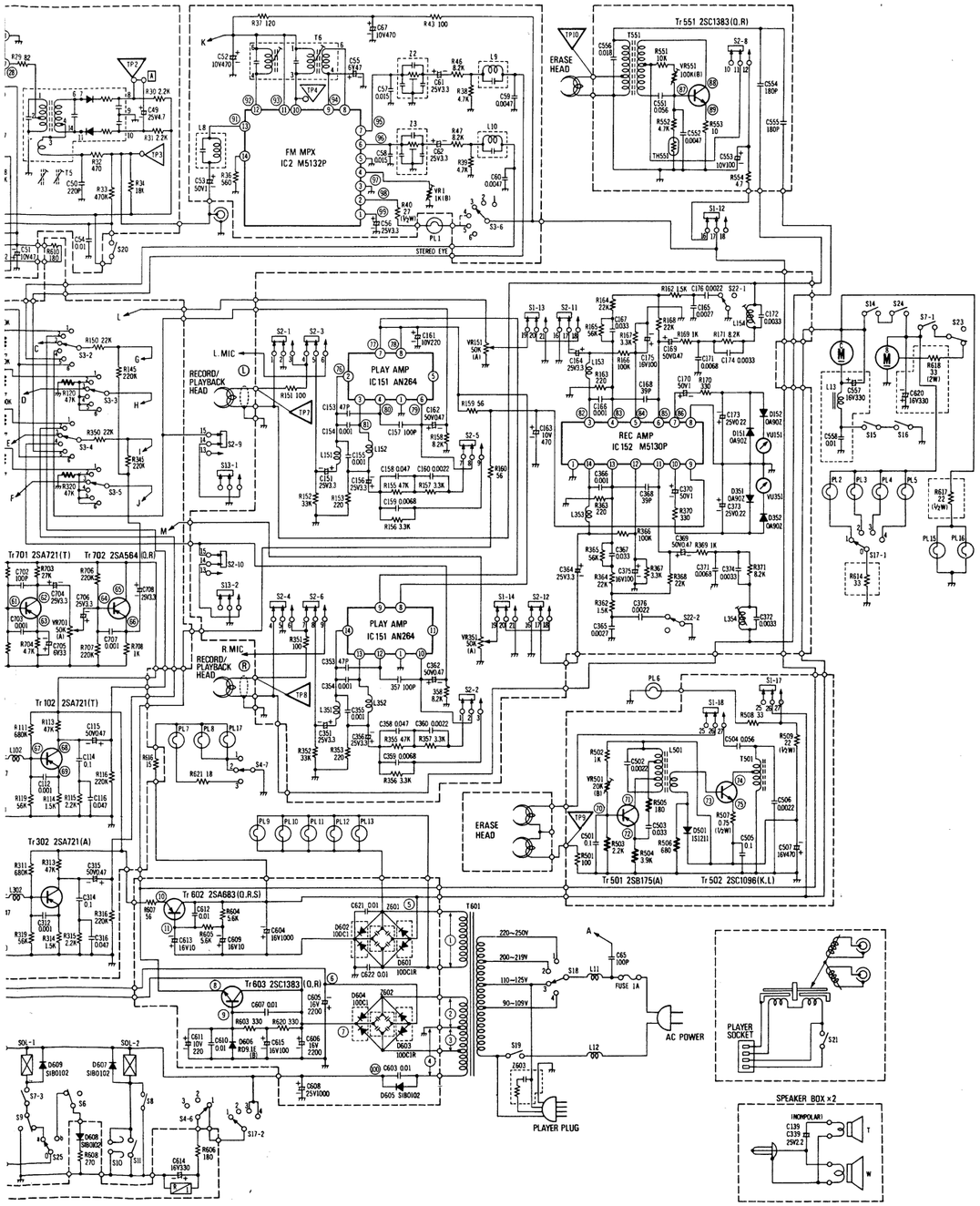


SCHEMATIC DIAGRAM MODEL RS-888S



Check Point	8-Track Recording	8-Track Playback	F
①		AC 11.0 V	
②		AC 10.0 V	
③		AC 10.0 V	
④		AC 14.6 V	
⑤		−14.0 V	
⑥		−13.2 V	
⑦		+13.3 V	
⑧		+8.0 V	
⑨		+8.6 V	
⑩		−10.8 V	
⑪		−11.4 V	
⑫			
⑬			
⑭			
⑮			
⑯			
⑰			
⑱			
⑲			
⑳			
㉑			
㉒			
㉓			
㉔			
㉕			
㉖			
㉗			
㉘			
㉙			
㉚	−7.4 V	−8.2 V	
㉛	−7.7 V	−8.3 V	
㉜	−1.15 V	−1.2 V	
㉝	−1.7 V	−1.8 V	
㉞	−0.62 V	−0.63 V	
㉟	−1.73 V	−1.82 V	
㊱	−1.1 V	−1.2 V	
㊲	−1.46 V	−1.54 V	
㊳	−5.0 V	−5.4 V	
㊴	−1.3 V	−1.4 V	
㊵	−0.03 V	−0.03 V	
㊶	+11.8 V	+12.0 V	
㊷	+1.45 V	+1.45 V	
㊸	+13.0 V	+13.3 V	
㊹	0 V	−1.5 V	
㊺	−13.1 V	−12.5 V	
㊻	−0.033 V	−1.66 V	
㊼	−1.15 V	−1.2 V	
㊽	−1.45 V	−1.55 V	
㊾	−0.64 V	−0.64 V	

NOTE: All measurements are Use VTVM for voltage



STANDARD VOLTAGE CHART

Check Point	8-Track Recording	8-Track Playback	Cassette Recording	Cassette Playback	FM	AM	Check Point	8-Track Recording	8-Track Playback	Cassette Recording	Cassette Playback	FM	AM
①		AC 11.0 V					㊶	−1.9 V	−2.05 V				
②		AC 10.0 V					㊷	−4.9 V	−5.2 V				
③		AC 10.0 V					㊸	−1.35 V	−1.5 V				
④		AC 14.6 V					㊹	−0.02 V	−0.02 V				
⑤		−14.0 V					㊺	+11.6 V	+11.8 V				
⑥		−13.2 V					㊻	+1.45 V	+1.45 V				
⑦		+13.3 V					㊼	+13.3 V	+13.3 V				
⑧		+8.0 V					㊽	0 V	−0.01 V				
⑨		+8.6 V					㊾	−13.2 V	−13.2 V				
⑩		−10.8 V					㊿	−0.02 V	−0.02 V				
⑪		−11.4 V					(61)	−1.6 V	−1.6 V				
⑫					−5.4 V		(62)	−3.1 V	−3.1 V				
⑬					−4.9 V		(63)	−1.05 V	−1.05 V				
⑭					−4.0 V		(64)	−3.0 V	−3.0 V				
⑮					−0.063 V		(65)	−9.1 V	−9.1 V				
⑯					−4.7 V		(66)	−2.38 V	−2.38 V				
⑰					−4.2 V		(67)	−0.68 V	−0.68 V				
⑱					−4.9 V		(68)	−3.9 V	−3.9 V				
⑲					−5.5 V	−5.5 V	(69)	−0.16 V	−0.16 V				
⑳					−4.0 V	−4.0 V	(70)	−2.5 V	——				
㉑					0 V	−4.6 V	(71)	−8.8 V	——				
㉒					0 V	−0.074 V	(72)	−2.5 V	——				
㉓					−4.1 V	−3.8 V	(73)	−8.1 V	——				
㉔					−4.9 V	−4.7 V	(74)	−0.05 V	——				
㉕					−4.9 V	−4.6 V	(75)	−8.7 V	——				
㉖					−5.4 V	−5.0 V	(76)			+0.69 V	+0.69 V		
㉗					−5.2 V	−5.2 V	(77)			+7.2 V	+7.2 V		
㉘					−0.1 V	−0.14 V	(78)			+7.2 V	+7.2 V		
㉙					−6.0 V	−5.9 V	(79)			+3.2 V	+3.2 V		
㉚	−7.4 V	−8.2 V					(80)			+1.7 V	+1.7 V		
㉛	−7.7 V	−8.3 V					(81)			+0.041 V	+0.035 V		
㉜	−1.15 V	−1.2 V					(82)			+0.65 V	+0.64 V		
㉝	−1.7 V	−1.8 V					(83)			+0.033 V	+0.025 V		
㉞	−0.62 V	−0.63 V					(84)			+0.68 V	+0.68 V		
㉟	−1.73 V	−1.82 V					(85)			+4.0 V	+4.0 V		
㊱	−1.1 V	−1.2 V					(86)			+3.0 V	0 V		
㊲	−1.46 V	−1.54 V					(87)			+1.0 V	——		
㊳	−5.0 V	−5.4 V					(88)			+7.6 V	——		
㊴	−1.3 V	−1.4 V					(89)			+4.0 V	——		
㊵	−0.03 V	−0.03 V					(91)					+2.1 V	
㊶	+11.8 V	+12.0 V					(92)					+5.9 V	
㊷	+1.45 V	+1.45 V					(93)					+5.9 V	
㊸	+13.0 V	+13.3 V					(94)					+2.15 V	
㊹	0 V	−1.5 V					(95)					+4.7 V	
㊺	−13.1 V	−12.5 V					(96)					+4.7 V	
㊻	−0.033 V	−1.66 V					(97)					+0.125 V	
㊼	−1.15 V	−1.2 V					(98)					+0.75 V	
㊽	−1.45 V	−1.55 V					(99)					+1.08 V	
㊾	−0.64 V	−0.64 V					(100)		+20.6 V				

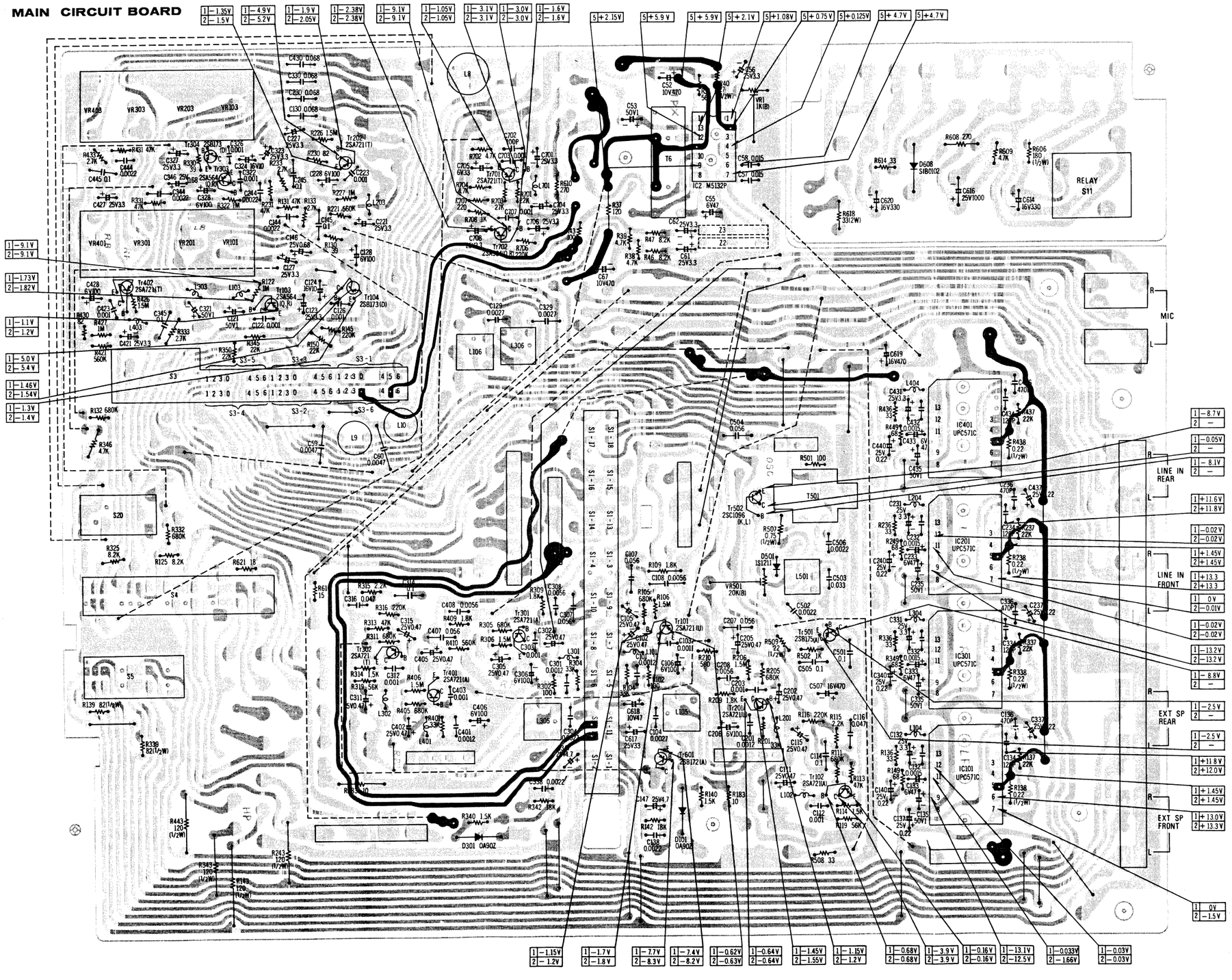
NOTE: All measurements are under no signal conditions with volume at minimum position.
Use VTVM for voltage measurements.

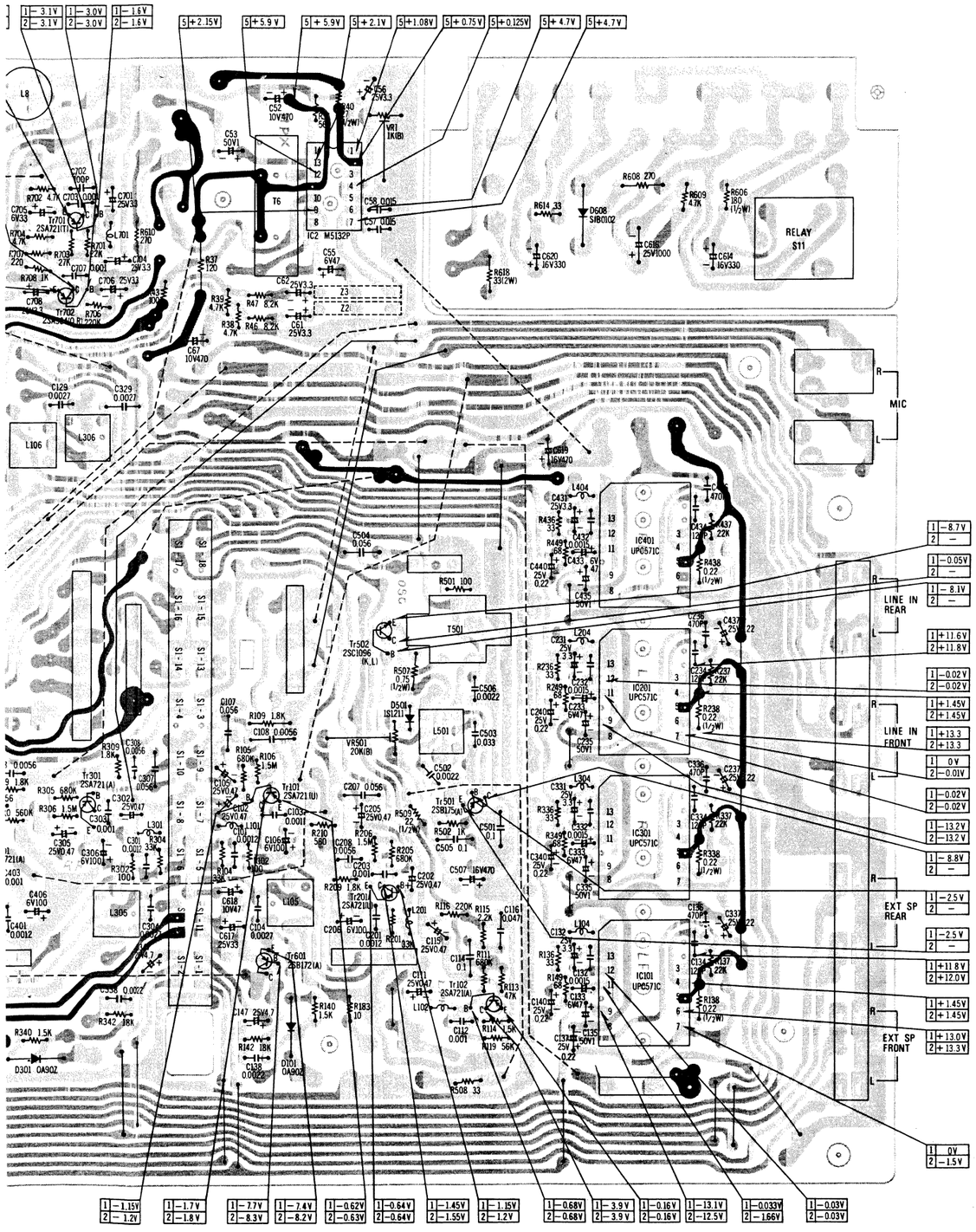
NOTE:

1. S1-1～S1-18 .....8-track record/playback select switch. (shown in playback position).
2. S2-1～S2-12 .....Cassette record/playback select switch. (shown in playback position).
3. S3-1～S3-6 .....Function switch (shown in 8-track position). 1...LINE, 2...PHONO, 3...8-TRACK, 4...CASSETTE, 5...FM AUTO, 6...AM.
4. S4-1～S4-7 .....Mode switch (shown in discrete position). 1...DISCRETE, 2...MATRIX, 3...STEREO.
5. S5-1～S5-4 .....Monitor switch (shown in high position). 1...HIGH, 2...LOW, 3...OFF.
6. S6 .....Auto eject switch.
7. S7-1～S7-3 .....FF switch.
8. S8 .....Program selector (shown in 1 position).
9. S9 .....Eject switch.
10. S10.....Sensing switch.
11. S11.....Relay switch.
12. S12.....8-track squelch switch.
13. S13-1～S13-2.....Cassette squelch switch.
14. S14.....8-track motor switch.
15. S15.....Cassette motor switch.
16. S16.....Cassette pause switch.
17. S17-1～S17-2.....Program indicate switch.
18. S18.....AC voltage select swich.
19. S19.....Power switch.
20. S20.....AFC switch.
21. S21.....Disc changer switch.
22. S22-1～S22-2.....Tape select switch.
23. S23.....Fast forword OFF switch (OFF in record made).
24. S24.....Motor protect switch.
25. S25.....Head position detection switch. a...program 1, b...program 2, 3, 4.
26. VR1.....FM stereo separation adjustment VR.
27. VR101, 201, 301, 401...Volume control.
28. VR102, 202, 302, 402...Balance control.
29. VR103, 203, 303, 403...Tone control.
30. VR151, 351.....Cassette input level control.
31. VR501 .....Erase current adjustment VR.
32. VR551 .....Bias current adjustment VR.
33. VR701 .....Mic mixing control.
34. PL1 .....Stereo eye.
35. PL2, 3, 4, 5 .....Program indicator.
36. PL6 .....Record indicator.
37. PL7, 8, 17.....4/2 channel indicator.
38. PL9 .....Dial indicator.
39. PL10, 11 .....Level meter.
40. PL12, 13 .....Dial scale.
41. PL15, 16 .....Power.
42. Resistor symbols made thick show printed type resistors.
43. Resistor values are in ohms (Ω), 1/4 watt unless specified otherwise. K=1,000Ω.
44. Capacitor values are in microfarads (μF) unless specified otherwise. P=Pico-farads.
45. Encircled numbers (◯) show the checkpoints for voltage. The value are marked in the standard voltage chart.

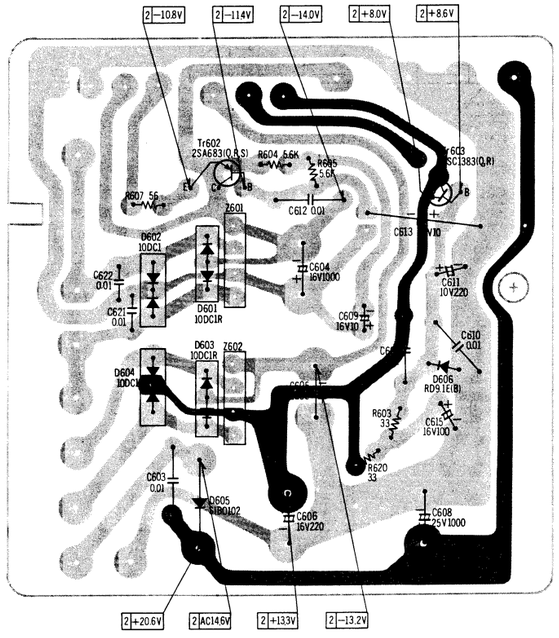
CIRCUIT BOARD

MAIN CIRCUIT BOARD

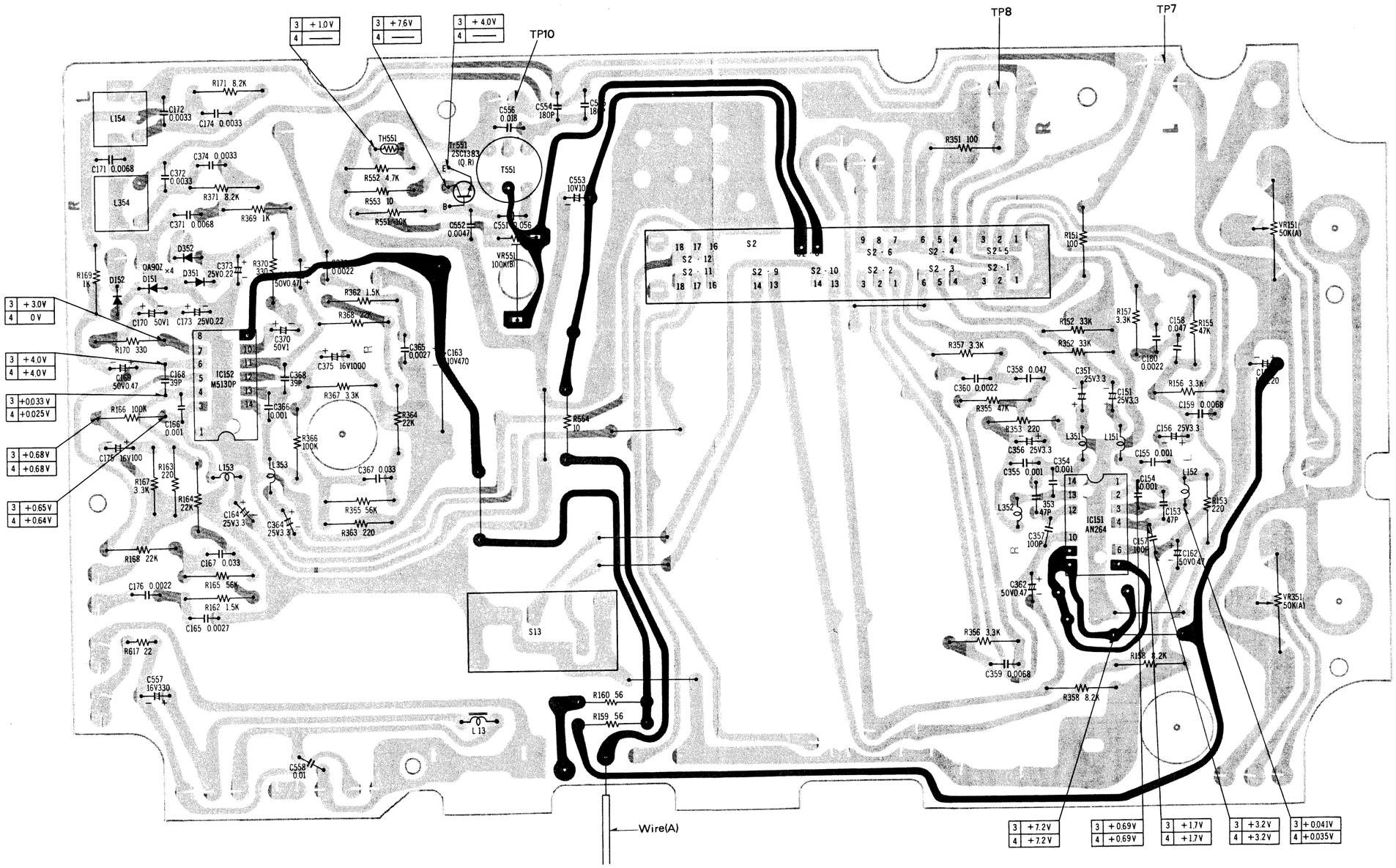




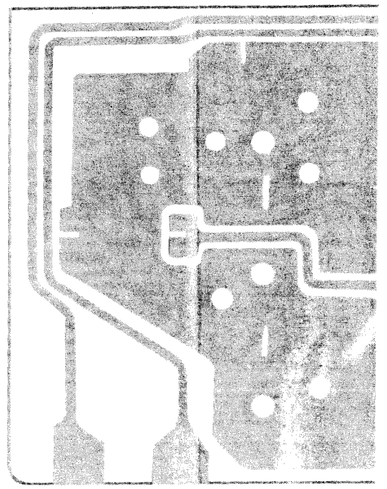
POWER CIRCUIT BOARD



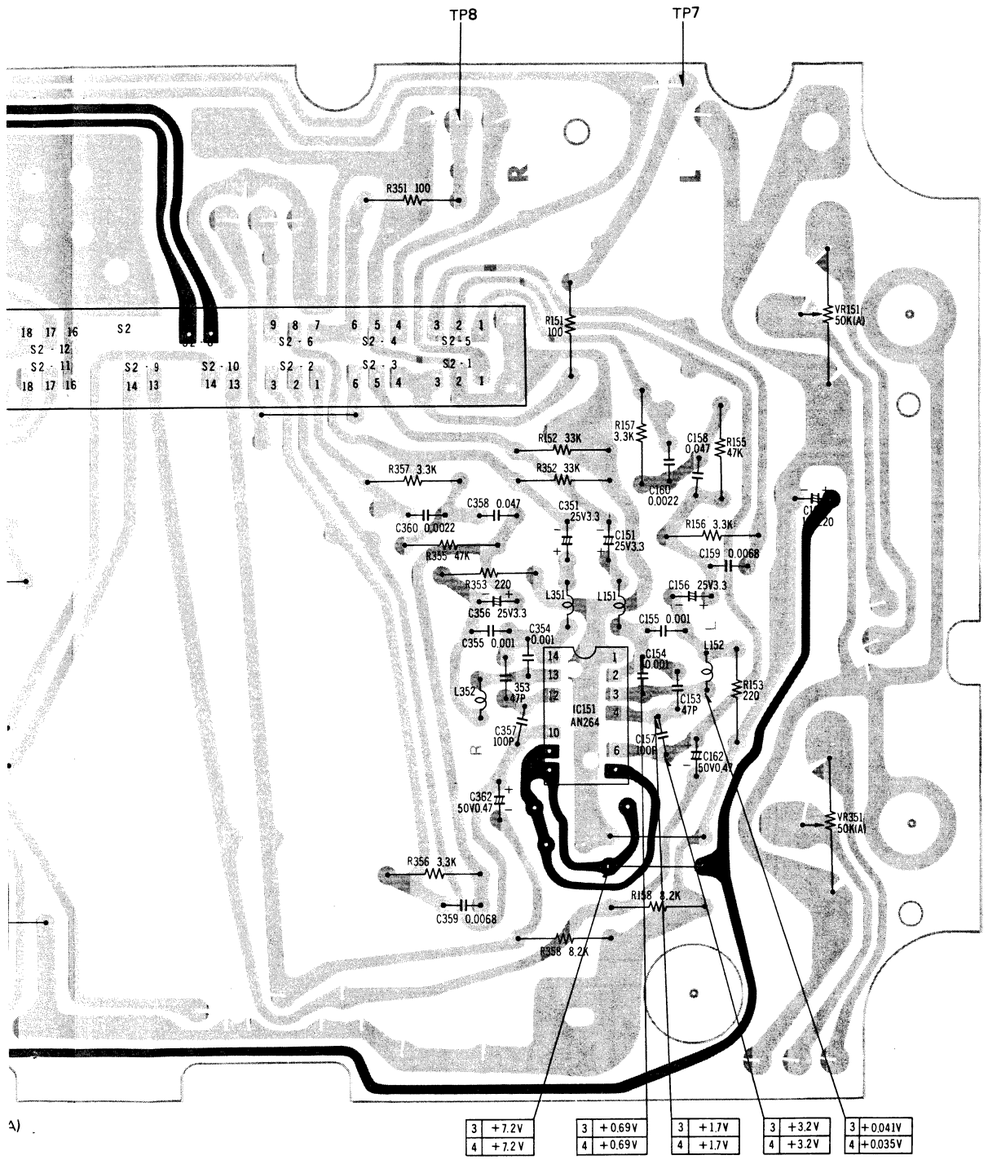
CASSETTE CIRCUIT BOARD



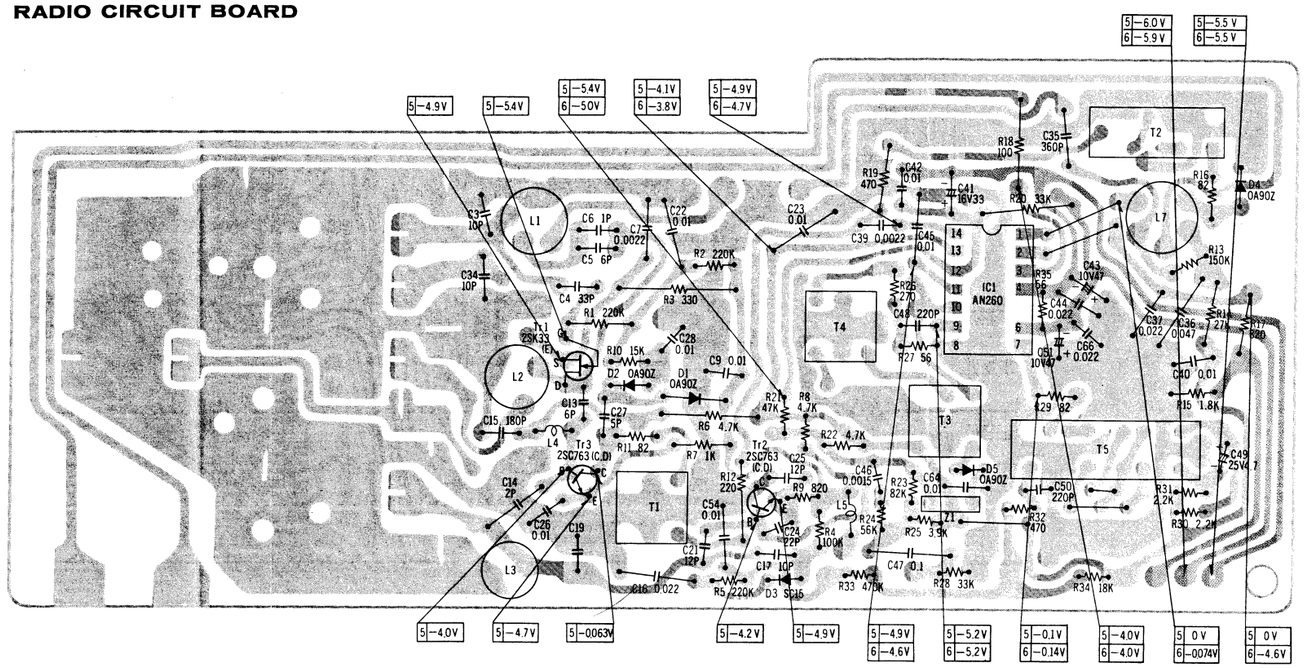
RADIO CIRCUIT BOARD



RADIO CIRCUIT BOARD



A)

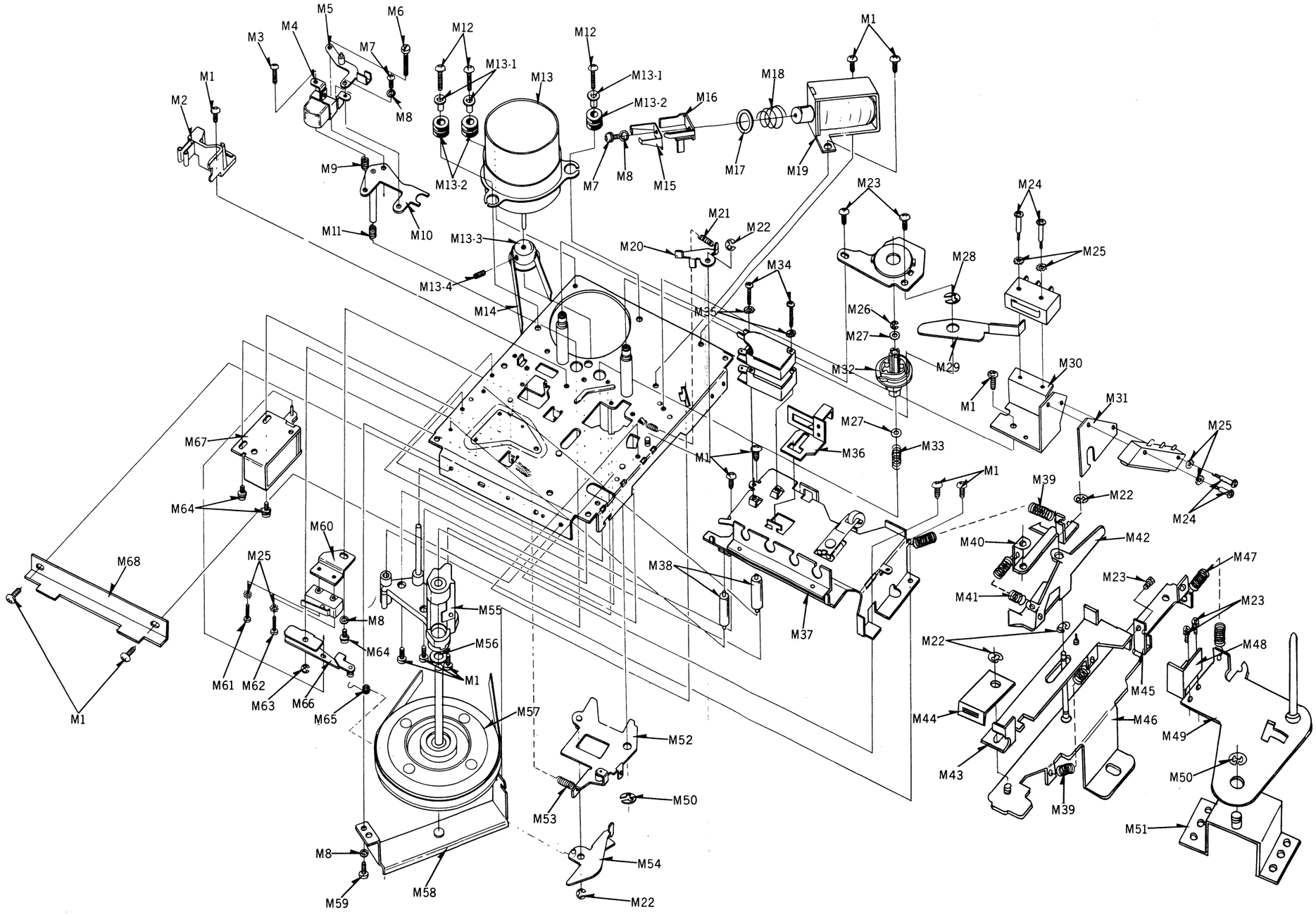


NOTE:

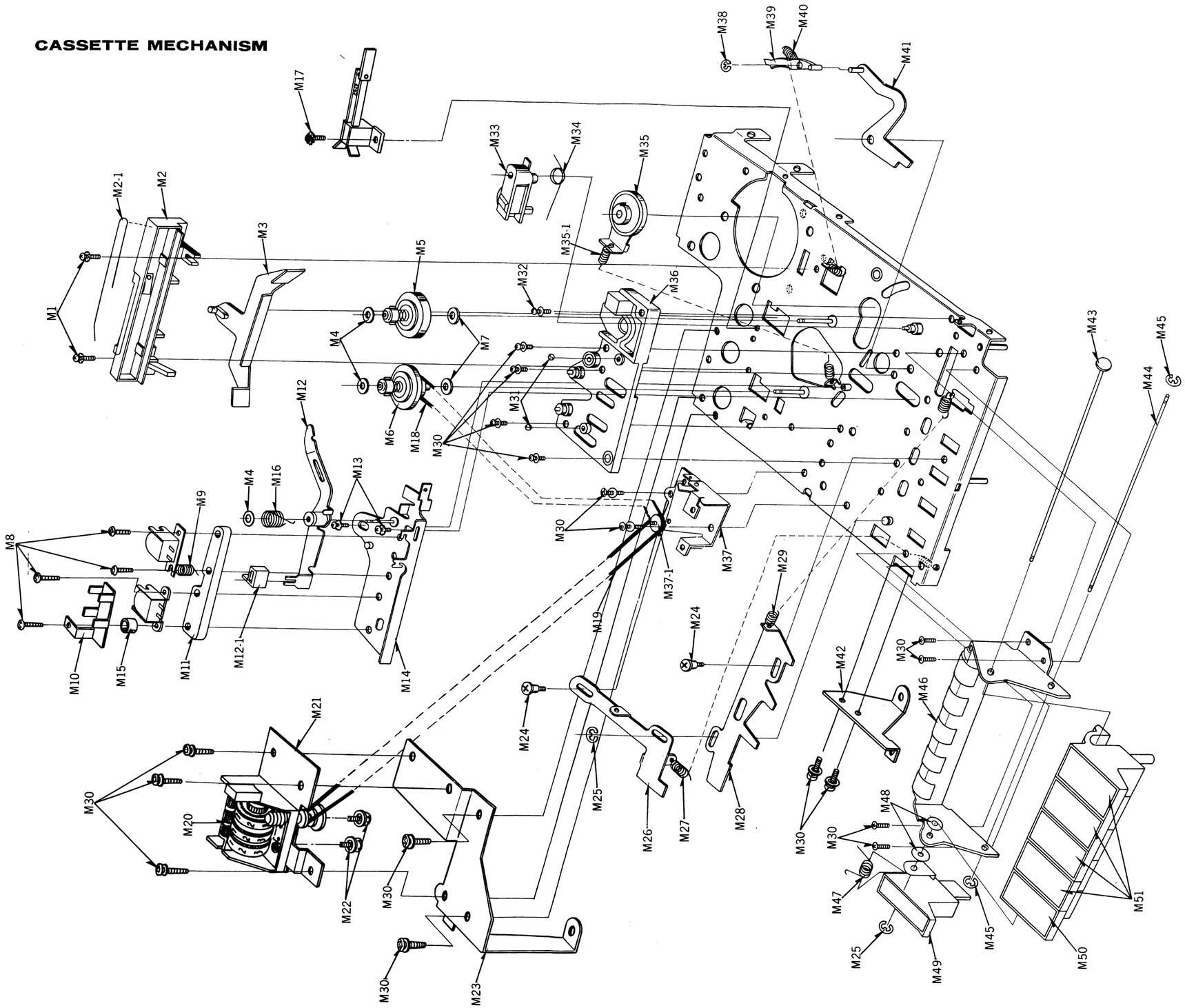
The circuit shown in green on the conductor is +B circuit.
The circuit shown in red on the conductor is −B circuit.
Values indicated in ▭ are DC voltages between the chassis and electrical part.
Numerals show values of voltage at.....
1...8-Track recording, 2...8-Track playback, 3...Cassette recording, 4...Cassette playback, 5...FM, and 6...AM respectively.

EXPLODED VIEWS

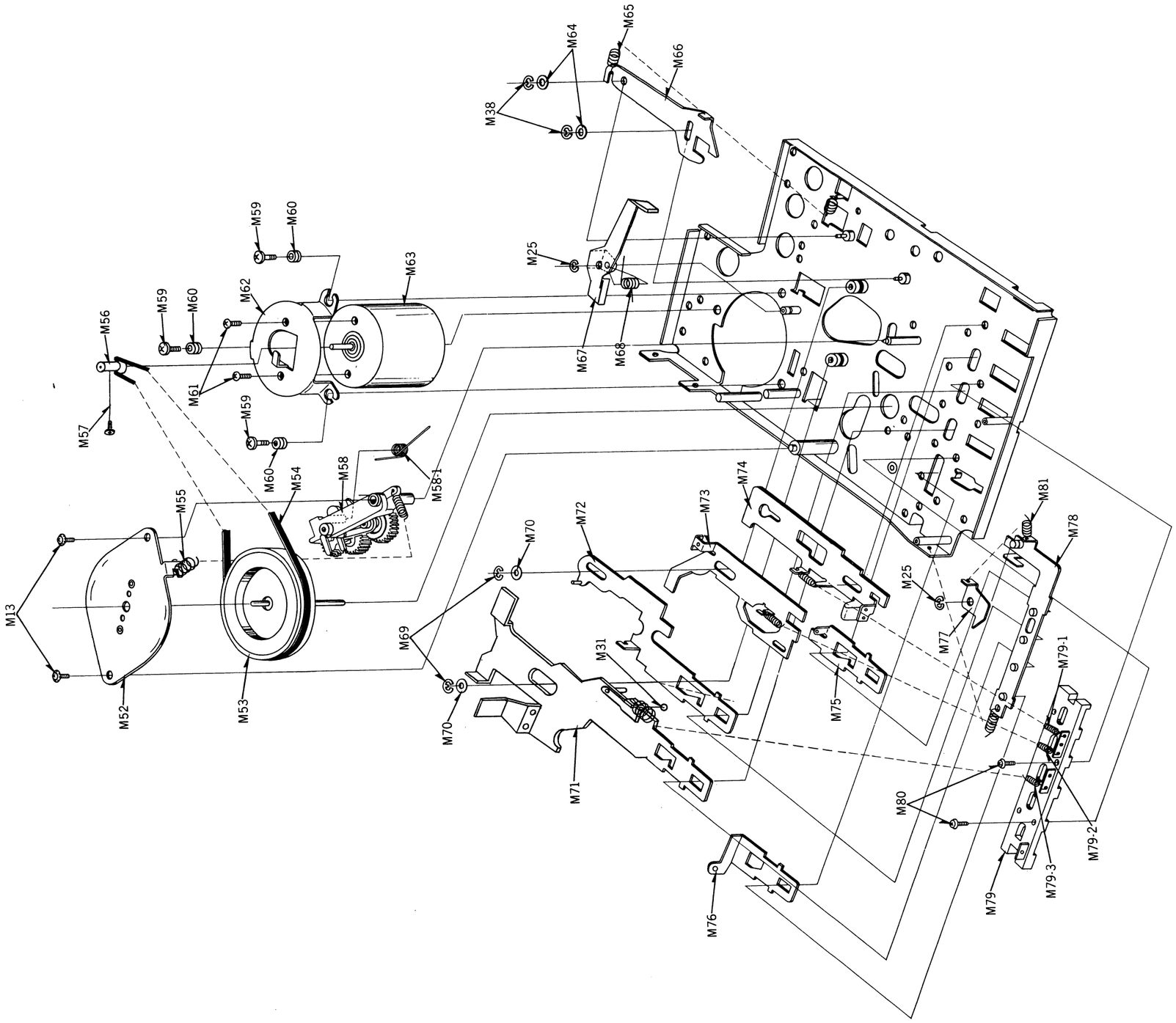
8-TRACK MECHANISM



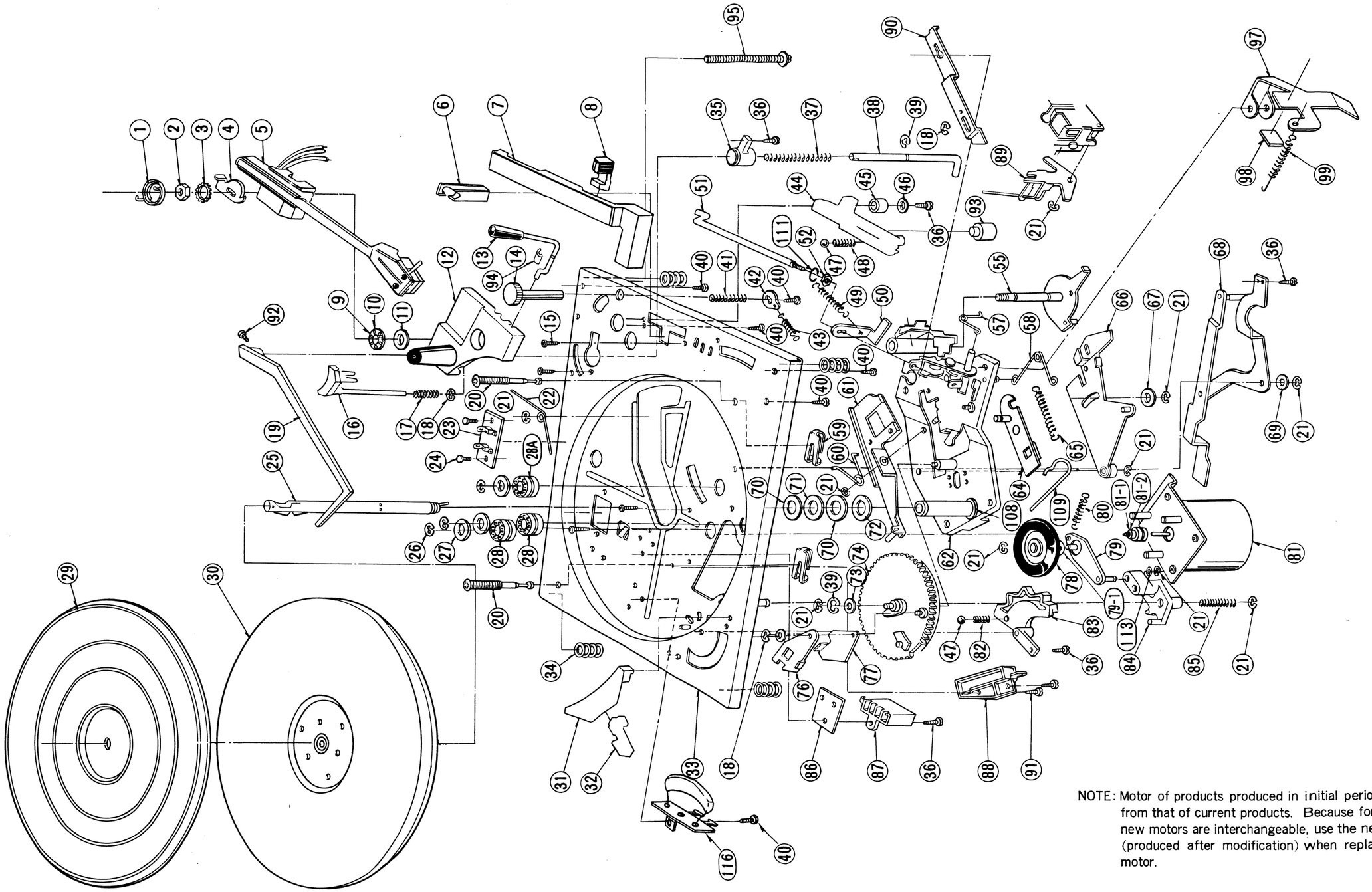
CASSETTE MECHANISM



CASSETTE MECHANISM



RECORD CHANGER



NOTE: Motor of products produced in initial period differs from that of current products. Because former and new motors are interchangeable, use the new motor (produced after modification) when replacing the motor.

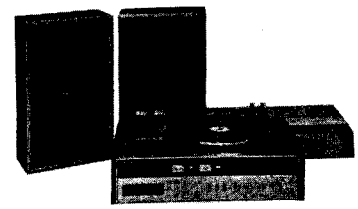
Printed in Japan

REPLACEMENT PARTS LIST

MODEL RS-888S (Panasonic)

ATTENTION:

1. Be sure to make your orders of Replacement parts according to this List.
2. " Ⓝ " indicates the New Parts.
3. "(ISO)" indicates the ISO Screw or Nut.
4. " Ⓚ " indicates the serrated parts with 18 notches.



RS-888S

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
	8-TRACK MECHANICAL PARTS				
M1	Tapping Screw ⊕3×8	XTB3+8B	11		
M2	Tape Guide	QXZ0016	1		
M3	Screw ⊖3×10	XSN3−10S	1		
M4	Head Clamper	QMA2244	1		
M5	Head Flat Spring	QXJ0101	1		
M6	Head Height Adjust Screw	QHQ1189	1		
M7	Screw ⊕3×6	XSN3+6S	2		
M8	Spring Washer 3φ	XWA3B	4		
M9	Head Angle Adiust Spring	QBC1166	1		
M10	Head Plate	QXH0179	1		
M11	Head Pressure Spring	QBC1221A	1		
M12	Tapping Screw ⊕3×12	XTB3+12B	3		
M13	Motor	QDM1311	1		
M13-1	Eyelet	QMP1418	3		
M13-2	Rubber Cushion	QBG1348	3		
M13-3	Motor Pulley	QDP1548	1		
M13-4	Screw 3×3	XXE3D5FZS	1		
M14	Belt	QDB0177	1		
M15	Ratchet Spring	QMF1611C	1		
M16	Cam Stopper	QGG0007A	1		
M17	Rubber Washer	QBW2002A	1		
M18	Plunger Spring	QBC1220	1		
M19	Plunger	QME0140A	1		
M20	Lock Holding Plate	QML2531	1		
M21	Lock Holder Spring	QBT1682	1		
M22	Stop Ring 3φ	XUC3FT	5		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
M23	Screw ⊕3×6	XYN3+C6S	5		
M24	Screw	QHQ1182	4		
M25	Lock Washer 2.3φ	XWC23B	6		
M26	Stop Ring 2φ	XUC2FT	1		
M27	Tetoron Washer	QBJ3099	2		
M28	Stop Ring E5φ	XUC5FT	1		
M29	Switch Lever-B	QXL0806A	1		
M30	Switch Angle	QMA2242	1		
M31	Wire Guide	QTD1218	1		
M32	Cam	QMD0005	1		
M33	Back Tension Spring	QBCT0005	1		
M34	Screw ⊕3×25	XSN3+25S	2		
M35	Lock Washer 3φ	XWC3B	2		
M36	Switch Lever	QXL0807	1		
M37	Cartridge Guide	QXZ0018	1		
M38	Roller	QDP1547	2		
M39	Record Lever B Spring	QBT1691M	2		
M40	Record Lever B	QML2690	1		
M41	Switch Lever Spring	QBT1070	1		
M42	Record Lever-A	QML2691	1		
M43	Record Lever Unit	QXL0839	1		
M44	Reinforcement Angle	QMA2384	1		
M45	Record Lever Spring	QBP1563	1		
M46	Record Lever Angle	QXL0838	1		
M47	Record Selector Spring	QBT1264	1		
M48	Record Adjust Angle	QMA2296	1		
M49	Record/Playback Select Lever	QXL0837	1		
M50	Stop Ring E5φ	XUC5FT	2		
M51	Select Lever Angle	QXL0814	1		
M52	Lock Lever-2 Unit	QXL0775	1		
M53	Lock Lever Spring	QBT1686M	1		
M54	Lock Lever-1 Unit	QXL0774A	1		
M55	Flywheel Metal Unit	QXM0134	1		
M56	Poly Washer 5.2×8×0.25	QBJ3217	1		
M57	Flywheel	QXF0089A	1		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
M58	Flywheel Retainer	QXA0203	1		
M59	Screw ⊕3×4	XSN3+4S	1		
M60	Switch Angle	QMH1131	1		
M61	Screw ⊕2×8	XSN2+8	1		
M62	Screw ⊕2×10	XSN2+10	1		
M63	Lock Washer 2.3φ	XWC23B	1		
M64	Screw ⊕3×5	XYN3+C5S	3		
M65	Eject Spring	QBN1314A	1		
M66	Eject Lever Unit	QXL0720	1		
M67	Plunger	QME0129C	1		
M68	Angle	QMA2209	1		
	CASSETTE MECHANICAL PARTS				
M1	Sems Screw ⊕2.6×8	XYN26+E8	2		
M2	Cassette Retainer Unit	QXQK0015	1		
M2-1	Brake Spring	QBS1057	1		
M3	Brake	QBJ1941	1		
M4	Nylon Snap Washer	QWQ1124	3		
M5	Takeup Reel Table Assembly	QXP0319	1		
M6	Supply Reel Table Assembly	QXP0320	1		
M7	Oil Prevent Washer (1)	QBJ3220	2		
M8	Screw ⊖2×12	XSN2−12	4		
M9	Head Spring	QBC1103A	1		
M10	Clamper	QMA2073	1		
M11	Head Spacer	QBJ2087A	1		
M12	Detecting Lever Assembly	QXL0482	1		
M12-1	Detecting Piece	QBJ1538	1		
M13	Sems Screw ⊕2.6×6	XYN26+E6	4		
M14	Head Base Assembly	QXK1474	1		
M15	Spacer	QMZ1141	1		
M16	Auto Stop Detecting Lever Spring	QBN1188	1		
M17	Sems Screw ⊕2×5	XYN2+E5	1		
M18	Counter Belt-A	QDB0167	1		
M19	Counter Belt-B	QDB0124	1		
M20	Counter	QDC0053S	1		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
M21	Counter Holding Plate	QMA2215	1		
M22	Sems Screw ⊕3×6	XYN3+C6S	2		
M23	Counter Angle	QMA2214	1		
M24	Screw	QHQ1168	2		
M25	Stop Ring E3ϕ	XUC3FK	4		
M26	Eject Lever-C Assembly	QXL0618	1		
M27	Eject Lever-C Spring	QBT1604M	1		
M28	Eject Lever-D Assembly	QXL0619	1		
M29	Eject Lever Spring	QBT1490	1		
M30	Sems Screw ⊕2.6×6	XYN26+C6	12		
M31	Steel Ball 2.5ϕ	QDK1012	3		
M32	Sems Screw ⊕2.6×10	XYN26+C10	1		
M33	Pressure Roller Assembly	QXL0450A	1		
M34	Pressure Roller Spring	QBN1157	1		
M35	Idler Lever Assembly	QXL0441	1		
M35-1	Idler Lever Spring	QBT1558M	1		
M36	Upper Base Assembly	QXK1331	1		
M37	Counter Angle Assembly	QXE0171	1		
M37-1	Connection Pulley	QDP1488	1		
M38	Stop Ring 2.5ϕ	XUC25FK	3		
M39	Auto Stop Driving Pawl	QBJ1656	1		
M40	Auto Stop Spring	QBTK0014	1		
M41	Auto Stop Driving Lever Unit	QXL0621	1		
M42	P.B Angle	QMA2212	1		
M43	Push Button Shaft-A	QMS2205	1		
M44	Push Button Shaft-B	QMS2206	1		
M45	Stop Ring E2ϕ	XUC2FK	2		
M46	Push Button Frame Assembly	QXE0169	1		
M47	Push Button-B Spring	QBN1263	1		
M48	Poly Washer 5.2×8×0.5	QBJ3283	2		
M49	Push Button (3) Assembly	QXB0135	1		
M50	Push Button (2) Assembly	QXB0134	1		
M51	Push Button (1) Assembly	QXB0133	4		
M52	Flywheel Retainer Unit	QXH0095	1		
M53	Flywheel Assembly	QXF0063	1		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
M54	Flywheel Belt	QDB0141	1		
M55	Fast Forward Lever Spring	QBT1485M	1		
M56	Motor Pulley	QDP1378A	1		
M57	Screw ⊕2×3	XSN2+3	1		
M58	Fast Forward Frame Assembly	QXG1014A	1		
M58-1	Gear Lever Spring	QBN1196B	1		
M59	Screw	QMS1833	3		
M60	Motor Rubber	QBG1055A	3		
M61	Screw ⊕2.6×3	XSN26+3	2		
M62	Motor Angle	QMA1779	1		
M63	Motor	MHI5L2CQ	1		
M64	Fiber Washer 3.2×9×0.5	QBK7124	2		
M65	Idler Spring	QBTK0013	1		
M66	Lock Plate-B	QML2341	1		
M67	Rewind Lever-B	QML2431	1		
M68	Rewind Lever Spring	QBN1262	1		
M69	Stop Ring E5ϕ	XUC5FK	2		
M70	Fiber Washer 6.2×11×1.0	QBK7130	2		
M71	Playback Rod Assembly	QXR0069	1		
M72	Fast Forward Rod-A Assembly	QXR0068	1		
M73	Fast Forward Lever Assembly	QXL0624	1		
M74	Record Rod Assembly	QXR0070	1		
M75	Rewind Lever-A	QML2336	1		
M76	Stop Lever	QML2335A	1		
M77	Lock Supporter	QML2342	1		
M78	Lock Plate-A Unit	QXH0141	1		
M79	Lever Guide Assembly	QXL0623	1		
M79-1	Record Lever Spring-B	QBT1617M	1		
M79-2	Record Lever Spring	QBT1486M	1		
M79-3	Playback Lever Spring	QBT1603M	1		
M80	Sems Screw ⊕2.6×8	XYN26+C8	2		
M81	Lock Supporter Spring	QBT1605	1		
	RECORD CHANGER (ARC-50G) PARTS LIST				
1	Spring	G4519			

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
2	Nut	G5053S			
3	Washer	G4036			
4	Binder	G8526			
5	Pickup Assembly	PM515S			
6	Rest Assembly	G8849E			
7	Control Panel	G3525G			
8	Knob	G8508			
9	Steel Ball	G41505			
10	Bearing Holder	G6246			
11	Thrust Washer	G4517			
12	Pickup Base	G2172			
13	Cueing Lever Assembly	G8523C			
14	Knob	G40004			
15	Tapping Screw	LPSP3006ZS			
16	Elevator Assembly	G3473A			
17	Spring (Elevator)	G8521			
18	Stop Ring	REE2000			
19	Support	G2171			
20	Mounting Screw	G8353			
21	Stop Ring	REE3000			
22	Reject Spring	G8512			
23	Jack Assembly	E6119B			
24	Rivet	RTA3004			
25	Spindle Assembly	G3474B			
26	Stop Ring	REE4000			
27	Washer	G8570			
28	Rubber Bushing	52992-2			
29	Turn Table Cover	G2170B			
30	Turn Table Assembly	G2169A			
31	Speed Change Cover	G3833			
32	Knob (Speed Change)	G8846			
33	Motor Board Assembly	G1150BS			
34	Flouting Spring	G40650			
35	Bracket	G8845			
36	Tapping Screw	SBSB3008Z			

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
37	Spring	G8506			
38	Supporting Rod	G8522			
39	Stop Ring	REE5000			
40	Tapping Screw	SBSB3006Z			
41	Spring	G40003			
42	Plate (Anti Skating)	G40005			
43	Spring (Inside Force)	G40506			
44	Knob (Record Select)	G3472			
45	Spacer	G4500-2			
46	Washer	Q03091-127			
47	Steel Ball 3/16"	3/16"			
48	Spring	G8511-2			
49	"	G8559			
50	Push off Lever	G8558			
51	Pilot Rod	G8557-2			
52	Nut	NTB4000			
55	Arm Lever Assembly	G4515G			
57	Spring (Selector Lever)	G8546-2			
58	Spring (ON/OFF)	G8513			
59	Locking Clip	G6774			
60	Spring (V. Lever)	G8563			
61	V. Lever Assembly	G3548D			
62	Base Sub Assembly	G2146BS			
64	Eject Link Plate	G40804A			
65	Spring	G40710-2			
66	H. Plate Assembly	G3477A			
67	Washer	Q03091-109			
68	Start Lever Assembly	G3468C			
69	Washer	Q03091-137			
70	Thrust Washer	G4590			
71	Bearing Assembly	G5670-4			
72	Bearing Cushion	Q03093-703			
73	Washer	G8552			
74	Main Gear Assembly	G2223A			
75	Washer	WSR3000N			

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
76	Engagement Pawl	G8553			
77	Trip Feed Plate	G8554			
78	Idler Assembly	M4939A			
79	Idler Arm Assembly	M6016B			
80	Idler Spring	G40512			
81	Phono Motor Assembly	EM42541A			(Old Part No.) EM83241A
81-1	Motor Pulley (50 Hz)	M6832C			(Old Part No.) M6906A
81-2	Motor Pulley (60 Hz)	M6832D			(Old Part No.) M6906B
82	Spring	G8511			
83	Cam (Speed Change)	G3522-2			
84	Idler Arm	G8840-2			
85	Spring (Speed Change)	G8510-2			
86	Insulator	G6525			
87	4 P Socket Housing	E04110			
88	Switch Assembly	G3200SS			
89	Shift Lever Assembly	G8548A			
90	Trip Slide	G3782			
91	Tapping Screw	SBSB3010Z			
92	Screw	LPSP4010MS			
93	Stud	G8529			
94	Spacer	G40358			
95	Mounting Screw	G6566-3			
97	Friction Lever	G40913			
98	Thrust Plate	M6315			
99	Spring (Friction Lever)	G40508			
108	Washer	G40675			
109	Spring	G40792			
111	Lock Washer	WLS4000			
113	Washer	Q03093-424			
116	Lug Strip Assembly	G41803A			
	RESISTORS				
R1, 2, 5, 116, 145, 316, 345, 706, 707					
	Carbon Resistor 220 KΩ 1/4 W	ERD14VJ224	9		
R3, 170, 370	" 330Ω 1/4 W	ERD14TJ331	3		

Ref. No.	Description			Part No.	Per Set (Pcs.)		Note
R4	Carbon Resistor	100 KΩ	1/4 W	ERD14VJ104	1		
R6, 552	"	4.7 KΩ	1/4 W	ERD14TJ472	2		
R7, 502, 708	"	1 KΩ	1/4 W	ERD14VJ102	3		
R8, 22, 38, 39,	346, 609, 702, 704						
	"	4.7 KΩ	1/4 W	ERD14VJ472	8		
R9, 17	"	820Ω	1/4 W	ERD14VJ821	2		
R10	"	15 KΩ	1/4 W	ERD14VJ153	1		
R11, 16, 29, 230, 430	"	82Ω	1/4 W	ERD14VJ820	5		
R12	"	220Ω	1/4 W	ERD14VJ221	1		
R13	"	150 KΩ	1/4 W	ERD14VJ154	1		
R14, 703	"	27 KΩ	1/4 W	ERD14VJ273	2		
R15, 109, 209, 309, 409	"	1.8 KΩ	1/4 W	ERD14VJ182	5		
R18, 151, 351	"	100Ω	1/4 W	ERD14TJ101	3		
R19	"	470Ω	1/4 W	ERD14VJ471	1		
R20, 152, 352	"	33 KΩ	1/4 W	ERD14TJ333	3		
R21, 155, 355	"	47 KΩ	1/4 W	ERD14TJ473	3		
R23, 615	"	82 KΩ	1/4 W	ERD14VJ823	2		
R24, 119, 319	"	56 KΩ	1/4 W	ERD14VJ563	3		
R25	"	3.9 KΩ	1/4 W	ERD14VJ392	1		
R26, 608, 610	"	270Ω	1/4 W	ERD14VJ271	3		
R27, 35, 607	"	56Ω	1/4 W	ERD14VJ560	3		
R28, 104, 201, 304, 401	"	33 KΩ	1/4 W	ERD14VJ333	5		
R30, 31, 115, 315	"	2.2 KΩ	1/4 W	ERD14VJ222	4		
R32	"	470Ω	1/4 W	ERD14TJ471	1		
R33	"	470 KΩ	1/4 W	ERD14VJ474	1		
R34, 142, 342	"	18 KΩ	1/4 W	ERD14VJ183	3		
R36	"	560Ω	1/4 W	ERD14VJ561	1		
R37	"	120Ω	1/4 W	ERD14VJ121	1		
R40	Solid Resistor	27Ω	1/2 W	ERC12GM270	1		
R43, 102, 302, 501	Carbon Resistor	100Ω	1/4 W	ERD14VJ101	4		
R46, 47, 125, 325	"	8.2 KΩ	1/4 W	ERD14VJ822	4		
R105, 111, 132,	205, 305, 311, 332, 405						
	"	680 KΩ	1/4 W	ERD14VJ684	8		
R106,206,226, 306,406,426	Solid Resistor	1.5 MΩ	1/4 W	ERC14GM155	6		
R113,131,231, 313,331,431	Carbon Resistor	47 KΩ	1/4 W	ERD14VJ473	6		

Ref. No.	Description			Part No.	Per Set (Pcs.)		Note
R114, 140, 314, 340	Carbon Resistor	1.5 KΩ	1/4 W	ERD14VJ152	4		
R122, 227, 322, 427	"	1 MΩ	1/4 W	ERD14VJ105	4		
R130, 330	"	39Ω	1/4 W	ERD14VJ390	2		
R133, 233, 333, 433	"	2.7 KΩ	1/4 W	ERD14VJ272	4		
R136,236,336, 436,508,614	"	33Ω	1/4 W	ERD14VJ330	6		
R137, 150, 237, 337, 350, 437, 701							
	"	22 KΩ	1/4 W	ERD14VJ223	7		
R138, 238, 338, 438	Wire-wound Resistor	0.22Ω	1/2 W	ERM12PKR22	4		
R139, 339	Solid Resistor	82Ω	1/2 W	ERC12GM820	2		
R143, 243, 343, 443	"	120Ω	1/2 W	ERC12GM121	4		
R149, 249, 349, 449	Carbon Resistor	68Ω	1/4 W	ERD14VJ680	4		
R153, 163, 353, 363	"	220Ω	1/4 W	ERD14TJ221	4		
R156,157,167, 356,357,367	"	3.3 KΩ	1/4 W	ERD14TJ332	6		
R158, 171, 358, 371	"	8.2 KΩ	1/4 W	ERD14TJ822	4		
R159, 160	"	56Ω	1/4 W	ERD14TJ560	2		
R162, 362	"	1.5 KΩ	1/4 W	ERD14TJ152	2		
R164, 168, 364, 368	"	22 KΩ	1/4 W	ERD14TJ223	4		
R165, 365	"	56 KΩ	1/4 W	ERD14TJ563	2		
R166, 366	"	100 KΩ	1/4 W	ERD14TJ104	2		
R169, 369	"	1 KΩ	1/4 W	ERD14TJ102	2		
R183, 383	"	10Ω	1/4 W	ERD14VJ100	2		
R210, 221, 410, 421	"	560 KΩ	1/4 W	ERD14VJ564	4		
R507	Wire-wound Resistor	0.75Ω	1/2 W	ERM12PKR75	1		
R509, 617	Solid Resistor	22Ω	1/2 W	ERC12GM220	2		
R551	Carbon Resistor	10 KΩ	1/4 W	ERD14TJ103	1		
R553	"	10Ω	1/4 W	ERD14TJ100	1		
R554	"	4.7Ω	1/4 W	ERD14TJ4R7	1		
R603, 620	"	330Ω	1/4 W	ERD14VJ331	2		
R604, 605	"	5.6 KΩ	1/4 W	ERD14VJ562	2		
R606	Solid Resistor	180Ω	1/2 W	ERC12GM181	1		
R616	Carbon Resistor	15Ω	1/4 W	ERD14VJ150	1		
R618	Wire-Wound Resistor	33Ω	2 W	ERM2P330	1		
R621	Carbon Resistor	18Ω	1/4 W	ERD14VJ180	1		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
	VARIABLE RESISTOR				
VR1	Semi-fixed Variable Resistor 1 KΩ (B)	QVL01AA00B13	1		
VR101, 201, 301, 401	Volume Control 50 KΩ (A)	EVIYBAK45A54	1		
VR102, 202, 302, 402	Balance Control 20 KΩ (D)	EVHB0AK25D24	4		
VR103, 203, 303, 403	Tone Control 10 KΩ (D)	EVB98AK45D14	1		
VR151, 351	Cassette Input Level Control 50 KΩ (A)	EVCR0AK45A54	2		
VR501	Semi-fixed Variable Resistor 20 KΩ (B)	QVL01AA00B24	1		
VR551	" 100 KΩ (B)	QVL01AA00B15	1		
VR701	MIC Mixing Control 50 KΩ (A)	EVHB0AK35A54	1		
	CAPACITORS				
C3, 17, 34	Ceramic Capacitor 10 pF	ECCD1H100FC	3		
C4	" 33 pF	ECCD1H330K	1		
C5, 13	" 6 pF	ECCD1H060DC	2		
C6	" 1 pF	ECCD1H010CC	1		
C7, 39	" 0.0022μF	ECKD1H222M	2		
C9,22,23,26,28,40,42,45,54,64,603,607,610,612,621,622					
	" 0.01μF	ECKD1H103P	16		
C14, 69	" 2 pF	ECCD1H020C	2		
C15	" 180 pF	ECCD1H181K	1		
C16	" 0.022μF	ECKD1H223P	1		
C21, 25	" 12 pF	ECCD1H120KC	2		
C24	" 22 pF	ECCD1H220KC	1		
C27	" 5 pF	ECCD1H050D	1		
C35	Styrol Capacitor 360 pF	ECQS1361JZ	1		
C36, 116, 158, 316, 358	Mylar Capacitor 0.047μF	ECQM05473MZ	5		
C37, 44, 66	" 0.022μF	ECQM05223MZ	3		
C41	Electrolytic Capacitor 33μF	ECEA16V33L	1		
C43, 51, 618	" 47μF	ECEA10V47L	3		
C46, 132, 232, 332, 432	Mylar Capacitor 0.0015μF	ECQM05152MZ	5		
C47, 114, 145, 245, 314, 345, 445, 501, 505					
	" 0.1μF	ECQM05104MZ	9		
C48	Ceramic Capacitor 220 pF	ECKD2H221K	1		
C49	Electrolytic Capacitor 4.7μF	ECEB25V4R7L	1		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
C50	Styrol Capacitor 220 pF	ECQS1221KZ	1		
C52, 67	Electrolytic Capacitor 470μF	ECEA10V470L	2		
C53, 121, 135,	170, 235, 321, 335, 370, 435				
	" 1μF	ECEA50V1L	9		
C55, 133, 233, 333, 433	" 47μF	ECEA6V47L	5		
C56,61,62,123, 327,331,351,	127,131,151,156,164,221,227,231,323, 356,364,421,427,431,701,704,706,708				
	" 3.3μF	ECEA25V3R3L	25		
C57, 58	Mylar Capacitor 0.015μF	ECQM05153MZ	2		
C59, 60, 552	" 0.0047μF	ECQM05472MZ	3		
C65	Ceramic Capacitor 100 pF	ECKD3D101MB2	1		
C101, 201, 301, 401	Mylar Capacitor 0.0012μF	ECQM05122MZ	4		
C102,105,111, 362,369,402,	115,162,169,202,205,302,305,311,315, 405				
	Aluminum Capacitor 0.47μF	ECAG25ER47	16		
C103,112,122, 326,354,355,	126,154,155,166,203,223,303,312,322, 366,403,423,703,707				
	Ceramic Capacitor 0.001μF	ECKD1H102PD	20		
C104,129,165, 304,329,365	Mylar Capacitor 0.0027μF	ECQM05272MZ	6		
C106, 128, 206,	228, 306, 328, 406, 428				
	Electrolytic Capacitor 100μF	ECEA6V100L	8		
C107,207,307, 407,504,551	Mylar Capacitor 0.056μF	ECQM05563MZ	6		
C108, 208, 308, 408	" 0.0056μF	ECQM05562MZ	4		
C124, 324, 609	Electrolytic Capacitor 10μF	ECEA16V10L	3		
C130, 230, 330, 430	Mylar Capacitor 0.068μF	ECQM05683MZ	4		
C134, 234, 334, 434	Ceramic Capacitor 120 pF	ECCD1H121K	4		
C136, 236, 336, 436	" 470 pF	ECKD1H471MB9	4		
C137, 140, 173,	237, 240, 337, 340, 373, 437, 440				
	Aluminum Capacitor 0.22μF	ECAG25ER22	10		
C138, 144, 160,	176, 244, 338, 344, 360, 376, 444				
	Mylar Capacitor 0.0022μF	ECQM05222MZ	10		
C139, 339	Electrolytic Capacitor 2.2μF	ECEB25V2R2	2		
C146, 346	Aluminum Capacitor 0.68μF	ECAG25ER68	2		
C147, 347	Electrolytic Capacitor 4.7μF	ECEA25V4R7L	2		
C153, 353	Ceramic Capacitor 47 pF	ECCD1H470K	2		
C157, 357, 702	" 100 pF	ECCD1H101K	3		
C159, 171, 359, 371	Mylar Capacitor 0.0068μF	ECQM05682MZ	4		
C161, 611	Electrolytic Capacitor 220μF	ECEA10V220L	2		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
C163	Electrolytic Capacitor 470μF	ECEB10V470L	1		
C167, 367, 503	Mylar Capacitor 0.033μF	ECQM05333MZ	3		
C168, 368	Ceramic Capacitor 39 pF	ECCD1H390K	2		
C172, 174, 372, 374	Mylar Capacitor 0.0033μF	ECQM05332MZ	4		
C175, 375, 615	Electrolytic Capacitor 100μF	ECEA16V100L	3		
C502, 506	Styrol Capacitor 0.0022μF	ECQS5222J	2		
C507, 619	Electrolytic Capacitor 470μF	ECEA16V470L	2		
C553	" 100μF	ECEA10V100L	1		
C554, 555	Styrol Capacitor 180 pF	ECQS1181KZ	2		
C556	Mylar Capacitor 0.018μF	ECQM05183MZ	1		
C557, 614, 620	Electrolytic Capacitor 330μF	ECEA16V330L	3		
C558	Ceramic Capacitor 0.01μF	ECKD2H103PE	1		
C604	Electrolytic Capacitor 1000μF	ECEA16V1000L	1		
C605, 606	" 2200μF	ECEA16V2200L	2		
C608	" 1000μF	ECEA25V1000L	1		
C613	" 10μF	ECEB16V10L	1		
C616	" 1000μF	ECEA25V1000L	1		
C617	" 33μF	ECEA25V33L	1		
C705	" 33μF	ECEA6V33L	1		
	VARIABLE CAPACITOR				
C1,2,10,11,18, 29,30,32,33	Variable Capacitor	ECV5MD34X35A	1		
C19	Trimmer Capacitor	ECV1ZW10P32	1		
	COMBINATION PARTS				
Z1	CR Combination Part	EXAF203Z471	1		
Z2, 3	"	EXA6FD04	2		
Z601, 602	Combination Part	B4BC0802	2		
Z603	CR Combination Part	QCR0001	1		
	TRANSISTORS				
Tr1	Transistor	2SK33(E)	1		
Tr2, 3	"	2SC763(C,D)	2		
Tr101, 201, 301, 401	"	2SA721(U)	4		
Tr102, 202, 302,402,701	"	2SA721(T)	5		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
Tr103, 303, 702	Transistor	2SA564(Q,R)	3		
Tr104, 304	"	2SB173(D)	2		
Tr501	"	2SB175(A)	1		
Tr502	"	2SC1096(K,L)	1		
Tr551, 603	"	2SC1383(Q,R)	2		
Tr601	"	2SB172(A)	1		
Tr602	"	2SA683(Q,R,S)	1		
	DIODES & RECTIFIERS				
D1, 2, 4, 5, 101, 151, 152, 301, 351, 352					
	Diode	OA90Z	10		
D3	Silicon Diode	SC15	1		
D501	"	1S1211	1		
D601, 603	Silicon Rectifier	10DC1R	2		
D602, 604	"	10DC1	2		
D605, 607, 608, 609	Silicon Diode	SIB0102	4		
D606	"	RD9.1E(B)	1		
	INTEGRATED CIRCUITS				
IC1	Integrated Circuit	AN260	1		
IC2	"	M5132P	1		
IC101, 201, 301, 401	"	UPC571C	4		
IC151	"	AN264	1		
IC152	"	M5130P	1		
	THERMISTOR				
TH551	Thermistor	QVM103	1		
	TRANSFORMERS				
T1, 4	FM IFT with Ceramic Filter	SFL10.7MB(A)	2		
T2	AM IFT	QLI0105	1		
T3	"	QLI0104	1		
T5	FM IFT	EULBFD102(A)	1		
T6	19/38 KHz Tuning Transformer	EULBMC001K	1		
T501	Oscillator Output Transformer	QLB0138	1		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
T551	Oscillator Transformer	QLB0145	1		
T601	Power Transformer	QLPN1KME	1		
	COILS				
L1	FM Antenna Coil	RLA4P7	1		
L2	FM Collector Coil	RLD4N21	1		
L3	FM Local Oscillator Coil	RLO4N41	1		
L4	IF Trap Coil	RLQY11G	1		
L5	Choke Coil	RLQY21G	1		
L6	AM Ferrite Antenna	QLR0107A	1		
L7	AM Local Oscillator Coil	ELL10P57	1		
L8	67 KHz Trap Coil	QLH2011	1		
L9, 10	19 KHz Trap Coil	QCRCFP1	2		
L11, 12	Line Filter Coil	QLH1011	2		
L13	Coil	QLP0105	1		
L105, 106, 305, 306	Trap Coil	ELM10S122	4		
L101, 102, 103, 303, 304, 351,	104,151,152,153,201,203,204,301,302, 352,353,401,403,404,701				
	Coil	ELQ3A9	21		
L154, 354	"	ELM10S122	2		
L501	"	QLB0141	1		
	SWITCHES				
S1	Slide Switch (8-Track Record/Playback Selector)	QSS1161	1		
S2	Slide Switch (Cassette Record/Playback Selector)	QSSC201T	1		
S3	Rotary Switch (Function)	QSR0023	1		
S4	Lever Switch (Mode)	QST6301H	1		
S5	Lever Switch (Monitor)	QST4301H	1		
S6	Push Switch (Auto Eject)	ESB504	1		
S7	Push Switch (F.F)	QSW4201	1		
S8	Push Switch (Program Selector)	QSW0116S	1		
S9	Push Switch (Eject)	QSW0118S	1		
S10	Sensing Switch (Coupled with Tape Guide Unit Ref. to M2)		(1)		
S11	Relay Switch	QSK0123A	1		
S12	Micro Switch (8-Track Squelch)	QSM0064T	1		
S13	Slide Switch (Cassette Squelch)	QSS1136	1		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
S14	Micro Switch (Motor ON/OFF for Cartridge Section)	QSM0064T	1		
S15	Leaf Switch (Cassette Motor ON/OFF)	QSB0169B	1		
S16	Slide Switch (Cassette Pause ON/OFF)	QSS1172	1		
S17	Rotary Switch (Program Indication)	QSR2401T	1		
S18	Rotary Switch (AC Voltage Select)	QSR0005B	1		
S19	Push Switch (Power ON/OFF)	QSW0123S	1		
S20	Lever Switch (AFC)	QST0042S	1		
S21	Changer ON/OFF Switch Refer to Changer Parts List.				
S22	Slide Switch (Tape Select)	QSS1172	1		
S23	Micro Switch (Record/Playback)	QSM0040A	1		
S24	Micro Switch (Motor Protector)	QSM0040A	1		
S25	Micro Switch (Head Position Detector)	QSM0040A	1		
	PILOT LAMPS				
PL1	Pilot Lamp	XAMQ21P300	1		
PL2, 3, 4, 5, 6	"	XAMQ23P300	5		
PL7	"	XAMQ23P200R	1		
PL8, 17	"	XAMQ23P200G	2		
PL9	"	XAMQ23P400	1		
PL10, 11, 15, 16	"	XAMQ23P200	4		
PL 12, 13	"	XAM43T	2		
	ELECTRICAL PARTS				
E1	8-Track Head	WY806	1		
E2	Cassette Record/Playback Head	WY435Z	1		
E3	Cassette Erase Head	QWY2118	1		
E4	Level Meter (8- Track)	QSL1039L	2		
E5	Level Meter (Cassette)	QSL1040R	2		
E6	Fuse	XBA1E10NR3	1		
E7	Fuse Holder-B	QTF1025	3		
E8	AC Power Cord	QFC1022	1		
E9	Cord Bushing	QTD1126A	1		
E10	Connection Cord with Pin Plug	QFC2075	1		
E11	MIC Input Jack (M3)	QJA0125	2		
E12	MIC Mixing Jack (M3)	QJA0115	1		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
E13	Headphone Jack	QJA0229	2		
E14	Headphone Nut	QNQ1033	1		
E15	Remote Control Socket	QJS0740	1		
E16	8 P Jack Board	QJA0436	1		
E17	3 P Jack Board	QJA0435	1		
E18	Jack Plate	QGJ1264	1		
E19	4 P Plug	QJP0952	1		
E20	5 P Mold Plug	QJP0985	2		
E21	5 P Mold Socket	QJS0749	2		
E22	3 P Mold Plug	QJP0979	1		
E23	3 P Mold Socket	QJS0745	1		
E24	4 P Terminal Board	QJT4012	2		
E25	6 P Connector Housing	TJT581A	1		
E26	4 P Connector Housing	TJT683A	2		
E27	3 P Connector Housing	TJT488A	3		
E28	Connector Terminal	TJT885A	23		
E29	Dial Scale	QGD0123	1		
E30	Dial Indicator	QKT1727	1		
E31	Dial Drum	QEQ1082S	1		
E32	Dial Spring	QBT1268	1		
E33	Dial Rope	RDZ05A	(1)		
E34	Tuning Flywheel	QDW1070	1		
E35	Tuning Shaft	QMN1803	1		
E36	Roller Shaft Assembly	QXA0272	1		
E37	"	QXA0273	1		
E38	Roller Shaft Assembly	QXZ0013	1		
E39	Roller	QDP1478	6		
E40	Heat Sink	QTH1103	1		
E41	"	QTH1080	1		
E42	Lamp Cover (PL1, 10, 11, 15, 16)	QBG1395	5		
E43	Lamp Cover (PL2, 3, 4, 5, 6)	QBG1222	5		
E44	Lamp Cover (PL7, 8, 17)	QBG1448A	1		
E45	Speaker (Woofer)	EAS16PL08S	2		
E46	Speaker (Tweeter)	EAS65PH14S	2		
E47	Speaker Cord	QFC2065	2		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
E48	Antenna Terminal Board	QJT0049A	1		
E49	Dial Indicator Guide	QGG0033	1		
E50	Jack Board Holder	QKJ0011	2		
E51	Cord Clamper	QTD1220	2		
E52	Dial Indicator Spring	QBT1772	1		
	CABINET PARTS				
G1	Wooden Body Case Assembly	QYW0023	1		
G1-1	Hinge (B)	QKC1082S2	2		
G2	Front Panel Assembly	QYP0489	1		
G2-1	Cartridge Lid	QKF1447	1		
G2-2	Cartridge Lid Shaft	QMN1684	1		
G2-3	Cartridge Lid Spring	QBC1090	1		
G2-4	Push Button Assembly	QXB0235	5		
G2-5	Button Guide (A)	QGG0037	1		
G2-6	Button Spring	QBC1231	5		
G2-7	Tapping Screw ⊕3×8	XTN3+8	2		
G3	Cassette Panel Assembly	QYP0490	1		
G3-1	Cassette Lid	QKF1425A	1		
G3-2	Cassette Lid Spring	QBN1072	1		
G4	Top Cover Assembly	QYF0159	1		
G4-1	Hinge (A)	QKC1081S2	2		
G4-2	Hinge Ornament	QGK2283S2	2		
G4-3	Screw ⊕3×8	XSN3+8FCS	4		
G5	Main Body Case Assembly	QYM0165	1		
G6	Bottom Board	QKS1119	1		
G7	Back Board	QKS1107	1		
G8	Tuning Knob Assembly	QYT0338K	1		
G9	Volume Knob Assembly	QYT0339K	3		
G10	Balance Knob Assembly	QYT0340K	5		
G11	Button Assembly (Power)	QXB0137	1		
G12	Lever Knob	QGT1202W1	3		
G13	Volume Knob Assembly	QYTK0019K	2		
G14	Speaker Box Assembly (Without Speaker)	QYE0031SW	2		
G14-1	Back Board for Speaker Box	QKS5096	2		

Ref. No.	Description	Part No.	Per Set (Pcs.)		Note
G14-2	Screw ⊕3.1×16	XMC31+16	20		
G15	Screw ⊕3.1×13	XMM31+13	2		
G16	Tapping Screw ⊕3×10	XTN3+10	11		
G17	Screw ⊕4×10	XSB4X10FZS	6		
G18	Screw ⊕2.6×11	XSN26+11FC	1		
G19	Speaker Washer	QWQ1003	8		
G20	Nut 3φ	XNG3ES	8		
G21	Spring Washer	XWA3B	8		
G22	Screw ⊕3.1×10	XMM31+10	8		
	ACCESSORIES				
A1	Cassette Tape (Demonstration)	QFT1TCCPRJZ	1		
A2	Microphone	WM2201P	2		
A3	Microphone Stand	WN123P	2		
A4	Head Cleaning Bar	QFQ1025	1		
A5	Cartridge Spacer	G41772A	1		
A6	Installation Screws	G41770	4		
A7	"	G41771	1		
A8	45 rpm Auto-Changer Adaptor	EPS10	1		
A9	45 rpm Adaptor	G8395	1		
A10	Instruction Book	QQT0579	1		
	PACKINGS				
P1	Inside Carton	QPN3057	1		
P2	Inner Cushion-A	QPA0080	1		
P3	Inner Cushion-B	QPA0081	1		
P4	Inner Cushion-C	QPA0082	1		
P5	Inner Cushion-D	QPA0083	1		
P6	Pad	QPS0065	1		
P7	Accessory Bag	QFV0047	1		
P8	Inside Carton for Speaker Box	QPN3018	1		
P9	Inner Cushion-H	QPN2656	4		
P10	Pad	QPN2772	2		
P11	Dust Cover	XZB60X80A08	2		